

# AMERICAN BEE JOURNAL

*The Oldest Bee Journal in the English Language*

ESTABLISHED BY SAMUEL WAGNER IN 1861

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# AMERICAN BEE JOURNAL



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## Prevalence of American Foulbrood in the United States and Canada

By M. G. Dadant,

Illinois.

**A**S European foulbrood is not a serious menace, and as parafoulbrood has not yet made its appearance generally, wherever disease is mentioned in this paper it will be understood to refer to American foulbrood.

In American Bee Journal for September, 1926, there appeared an article on bee disease eradication similar to this one. It was the result of an investigation conducted by the author, based on information received from the various bee inspectors. It has occurred to the writer that it will be interesting to compare the status of bee disease in the United States in 1925 with the status of bee disease in the same area in 1936. Accordingly, from a questionnaire prepared and sent to all state bee inspectors in the United States, the following report is submitted.

The original maps show the occurrence of bee disease in 1925 and in 1936. Some change has occurred, as the map accompanying this report shows no "black" state. Ten states from which it was impossible to get information, or which were operating without funds, or which had no disease laws are classed as doubtful. Of these states, Maine, Delaware, and New Mexico gave no information. They have no operating bee inspectors. West Virginia, North Carolina, Kentucky, Arkansas, Montana, and Washington are trying to conduct their disease work without funds and, therefore, no state inspector. From them no definite information was available. Missouri, alone, has neither funds nor laws.

### Apiaries Inspected.

Eighty thousand apiaries were inspected during 1936—approximately 10 per cent of the apiaries in the

United States, basing the estimate on the 800,000 figure commonly accepted to represent United States beekeepers. In the apiaries inspected, eight thousand, again, 10 per cent, were found to harbor disease.

### Colonies Inspected.

During the year, 1,332,290 colonies were reported inspected. Of these, 53,100 colonies were diseased.

### Treating and Burning.

Inspectors of the 53,100 diseased colonies reported 4,057 colonies treated and 33,365 colonies burned. This leaves a discrepancy of some 15,000 colonies which apparently must have been taken care of by the beekeepers themselves, or on which no second check was made by the bee inspectors. This situation may cause some difficulty and some recurrence of disease: While 53,100 colonies appeared to be diseased, only 37,000, or a little over, were either treated or burned.

Of the forty-five states reporting, eleven recommend both treating and burning. The other thirty-four are now pursuing a policy of burning.

### Disease Laws.

Thirty states reported adequate laws. The others wrote to the effect that their laws should have more "teeth."

Thirty-nine state inspectors desired more uniformity of laws, whereas only a few were opposed to the idea.

The question was asked: Are national bee laws advisable? Twenty-four reporters thought they were; eighteen thought they were not. The general opinion seemed to be that national bee laws for the control of traffic between states which are now well policed with inspectors and those which have no inspection or no appropriation would be desirable.

Twenty-three states wanted national supervision of bee inspection, and eighteen did not. On these national

law and national inspection questions the opinion seemed to be fairly well divided; several of those reporting for national inspection were more or less lukewarm, desiring no interference with their state program.

### Deterrents to Disease Eradication.

The chief deterrents to disease eradication are well known to all of us. As reported by inspectors, however, they rank as follows:

1. Lack of funds.
2. Careless beekeeping.
3. Ignorance.
4. Interstate hauling of combs and equipment.
5. Wild colonies.

Other deterrents reported were: diseased honey, treating of colonies, political appointees, no cooperation on the part of beekeepers, lack of laws, box hives, and so on.

### Money Available for Bee Inspection.

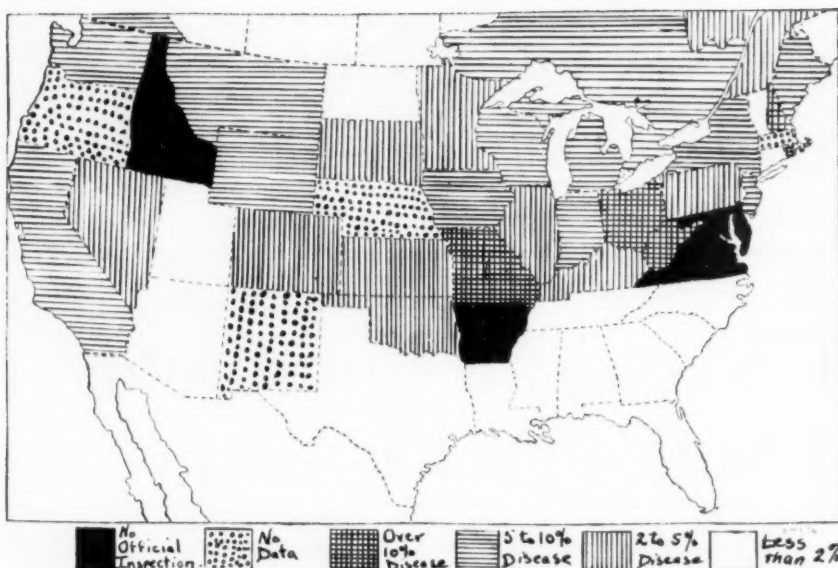
The writer was surprised at the enormous amount of money already available for bee inspection. Yet most of the states report that insufficient funds impair the efficiency of the inspection work.

Altogether \$255,000 is spent for bee inspection in the United States. This figure must be only relative, as the southern states operating under their plant boards give no definite figures, but get what funds are necessary. Also the amount reported must be indefinite, as there are many appropriations from counties, beekeepers' associations, and so on, which help to bolster the amount appropriated by states. However, this is no inconsiderable sum to be spent on inspection each year.

### How Is Money Raised?

In most of the southern states, the money is furnished for bee inspection by the State Plant Board or by state boards of agriculture. In most northern states the funds are obtained





through state appropriations or general taxes and in several instances are pieced out by county appropriations. Wisconsin and California seem to be the first states to make a coordinate effort between state and counties in bee inspection. According to the reports, only three states are levying a special tax on colonies of bees. These states are Idaho, Nebraska, and Nevada. Similarly, in Manitoba a registration and a tax per colony has been instituted.

#### Are Inspectors Appointed Under Civil Service?

Unfortunately in most states chiefs of bee inspection are not under civil service. Usually they are appointive offices. Fortunately, the choice seems to be a good one in practically all instances and likely this has been because the governors or the state legislatures have followed the recommendations either of influential bee-

keepers or of state beekeepers' associations. Only occasionally complaints come to this office that state inspectors, being appointed politically, are without efficiency.

Almost all county inspectors are appointed, many of them having received their appointments after recommendations from county beekeepers' associations or from a group of beekeepers particularly interested in beekeeping in their section.

#### Solution of the Problem.

There was no unanimity of opinion among the reporters as to what the ultimate solution of the American foulbrood problem might be. However, there seems to be a definite trend. For instance, twelve reported that a plan of education of beekeepers was the solution. Eleven reported that disease resistant bees would be our ultimate solution, and ten reported that a strenuous system of burn-

ing would solve the problem. Similarly, ten inspectors reported that if more funds were available the problem could be solved, but they did not make a suggestion as to how much money would be needed. Nine inspectors wanted more thorough and persistent inspection and thought that if this were in operation, the solution of the problem would be easier.

Other suggestions were for a general cleanup of diseased material, control of migratory beekeepers, civil service for inspectors, federal supervision, uniformity of bee laws, registration, quarantine laws, research, and elimination of wild bees.

#### In Canada.

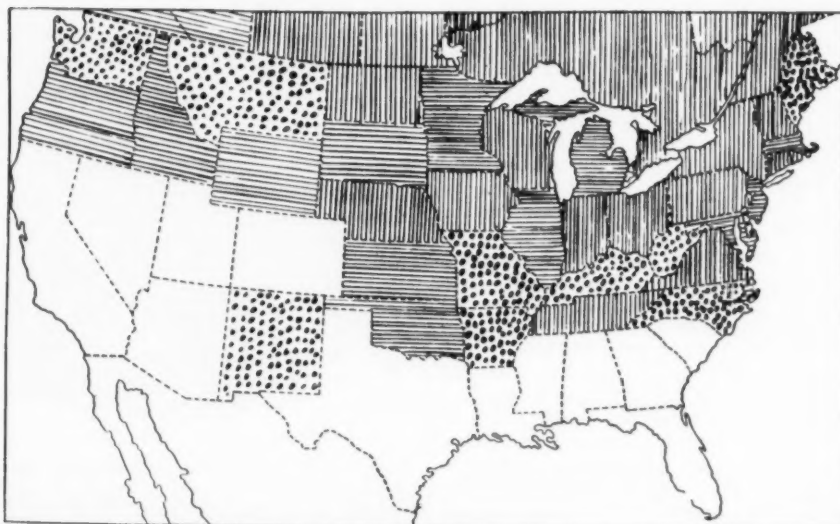
The Canadian provinces are similar to the States in their American foulbrood problems. The reported total of colonies inspected and colonies diseased includes also the Canadian provinces, as their proximity to the United States makes the problem the same for us all.

#### Examine the Maps.

Readers are urged to examine the two maps which appear here. One was drawn in 1925, the other in 1937. As a whole, you will notice that the continuation of disease-free, or almost disease-free, territory has been relatively constant in the South and in parts of the West. California, Colorado and Nevada have been added to those states which have less than 2 per cent of disease.

On the other hand, some of the borderline southern states have a higher percentage of disease than they had in 1925. This is readily understood; for during the depression, appropriations were severely cut in many states. The increase of white area in the western states makes apparent that where apiaries are scattered, as they must necessarily be in the irrigated valleys of the West, there is a far better chance for a thorough job of inspection and burning than there is in the eastern states where the colonies are kept in relatively small apiaries where they are harder to find and where there are more of them.

It is unfortunate that North Dakota and some of the provinces of Canada have drifted back into the group of states having a high percentage of disease. Just why this has come about is difficult to determine. There has been a great impetus in beekeeping, particularly in the western provinces, owing to the rapid spread of sweet clover. Naturally the importation of bees has gone on on such a grand scale that it has been difficult for the inspectors in those areas to keep anywhere near abreast of the bees which have come in. It is likely, also, that many bees, brought in unknown to the inspectors, have acquired disease



The upper map shows status of American foulbrood in the United States in 1925. The lower map shows the situation in 1936. The legend is the same for both maps.



through the interstate movement of colonies and combs.

The significant thing about the whole report is that when disease recedes to less than 5 per cent in any state, particularly in the more heavily populated states, it becomes increasingly difficult to decrease the disease percentage. This will be readily seen from the fact that some states which were below 5 per cent twelve years ago have now gone back again above 5 per cent.

The writer would hesitate very much to make any prediction as to what the solution may be. The states without inspection have much to do with the disease along the border line. A little more efficiency in the work of some bee inspectors undoubtedly would help and no doubt larger appropriations from many states which now have only a skeleton working force might make for more nearly complete eradication.

However, it is hardly to be hoped that we will ever get complete eradication under the present system unless something else, perhaps resistant bees, becomes available. Even then it is going to be necessary to have just as effective an inspection force as we have now, and perhaps a better one.

When one realizes that there were 53,000 diseased colonies discovered by the bee inspectors, he must also take into account that probably many times that number were discovered by the beekeepers themselves and destroyed before the inspector's visit. It would hardly be amiss to estimate at least 100,000 and possibly 150,000 colonies of bees diseased every year in the United States, which are destroyed either by inspectors or by the beekeepers. Added to this are many thousands of colonies which become diseased and die without ever being inspected, either by an official inspector or by the owner. Thus we have an enormous total of perhaps 200,000 colonies going by the board every year.

We could write our own figures as to what these losses mean. Figuring the colony at at least \$7.00, including the frames and foundation, which is little enough, we have nearly a million and a half dollars of loss there. If we add to that the loss of crop which might equal fifty pounds a colony for the 200,000 colonies, we arrive at a total of some 10,000,000 pounds of honey which, at a minimum figure of five cents a pound, would be an additional \$500,000 of loss.

This does not take into consideration the amount of labor which is incumbent upon the beekeepers for destruction of colonies, cleaning up of hives, scorching, replacement of equipment, and so on.

Perhaps we beekeepers have been

dilatory in not realizing the extent of the losses each year and in not making more effecting efforts to combat the disease.

#### Summary.

It appears that a concentrated system of burning of diseased colonies and a thorough reinspection after the disease has been found are two of

the fundamentals in successfully combating American foulbrood. Complete eradication lies in the future, and it is a question whether even a strain of disease resistant bees would ever completely solve our problem or whether the most rigid inspection and a most ruthless burning can reduce the disease beyond that apparently irreducible minimum.

—ABJ—

## Tribute to Pioneer Beekeepers

By Frank F. Johnson,  
Wisconsin.

"It is a noble deed to remember,  
... a selfish act to forget!"

IT is fitting and appropriate that the beekeeper of today pay grateful tribute to those men of yesteryear who labored and experimented with plans for better beekeeping; at the time not certain if those labors were in vain. But their strive for attainment was tireless, and their efforts have brought beekeeping what it is today.

We have been so interested in our work, that we have failed to hesitate a moment to revere those who have gone on before us, and left with us their deeds of completion. We boast, in conceit, that our problems, worries and difficulties are more complex than at any time in history. True, many of us are depending on the bees as a livelihood, and have difficulties to contend with. But who cares to go back to the days of primitive beekeeping?

Eventually, and as time went on, someone would find the right answer to their difficulties. But those who first gave us the information required, hastened the improvements that were sure to follow, and should be given consideration for their origin. Those minds that later conceived the improvements of course are secondary.

Today we would not tolerate a hive with immovable combs. Movable frames have given us a free hand over manipulations necessary to produce maximum crops and aid towards disease control. That achievement must be credited to Rev. Langstroth for its completeness, although Huber, the blind naturalist, in his studies, used a movable portion on his hives, representing a comb or frame.

J. Mehring, a German carpenter, first conceived the idea of sheets of wax impressed between a pair of wooden plates, engraved with impressions of the cell base. The venerable A. I. Root made the improvements to bring it up to its present day necessity. Hruschka made the first

honey extractor, and from that meager beginning, improvements were made by Langstroth and Wagner, and later by our present day manufacturers.

Langstroth, Dadant, Quinby, Heddon and others have experimented with hive dimensions to find the most satisfactory size and shape for best results. Langstroth and Dadant dimensions have been settled on as the most practical. Many of the pioneers of beekeeping have made their experiments known to us by their pen, either by book or articles in early bee journals. Tireless minds were busily engaged to keep ahead of advancing time.

We still have not reached the limit of progress. Much more can be done, and is done. The next generation of beekeepers will look back and find that there have been several worthy things accomplished in this era. The most important of these, perhaps, is the American Honey Institute, the honor which will surely be given to Mrs. Jensen and her able assistants, together with those who made financial donations to help carry on the work.

So in conclusion, when we work our bees; everything going in ship-shape manner, remember someone was responsible for the origin of every device or manipulation. So let us not forget those that have made it possible to carry on such an interesting work as beekeeping.

—ABJ—

## President Authorizes Marketing Agreement

An Associated Press release signifies that President Roosevelt has signed a bill authorizing the secretary of agriculture to enter into the marketing agreement with beekeepers. We presume this to be the agreement existing already between the breeders and the secretary, although the clipping states that honey is included. We have no information to that effect. (From Mrs. Alfred P. Johnson, Illinois.)

# The British Honey Market

By Leonard S. Harker,  
England.

BRITAIN has a very sweet tooth but honey does not form an article of diet to the great mass of the people. Honey is still looked upon as something of a luxury or as a medicine, just to be taken sparingly and upon certain occasions.

Some startling disclosures were recently made in a survey of the diet habits of the population by Sir John Orr, Director of the Rowett Institute for Research in Animal Nutrition, Aberdeen, and published in book form under the title: "Food, Health and Income." This report has become a semi-official document. It was therein shown that quite 50 per cent of the population can only afford to spend eight shillings or less per head weekly on diet (say two dollars). Until this lamentable state of affairs is corrected we simply cannot hope to see any appreciable increase in the consumption of honey over here.

In Britain we are mainly a town-bred population. We have almost forgotten that we once came from the land. In the present rush and turmoil of modern life, we have lost touch to a large extent with natural values. It is very doubtful if more than one per cent of our town-bred population would recognize a real honeybee.

Commercial sugar is so cheap, plentiful and convenient, ready for instant use, that as a consequence many have lost their taste for natural honey although they may be in a position to afford honey.

Nevertheless, despite the many adverse factors involved, a change in the dietary of the people is slowly taking place. Intelligent publicity after the manner of your American Honey Institute coupled with an increase in the income level of the community would no doubt hasten this changing habit towards a more natural diet, under which impetus honey consumption would be sure to increase as being Nature's best sweet from a health point of view. The medical and health authorities are now taking greater interest in the diet and health of the nation.

During recent years beekeeping and honey production have received great encouragement by the government and local authorities. The craft is also much better organized. The government has scheduled honey under the National Mark scheme; honey sold under this scheme has to conform to certain regulations. The government in return gives consider-

able free publicity and services.

Bee diseases are under better control. Research work in this field is being extended at the Rothamsted Station, which is being supported by both the government and the craft.

With this revival in beekeeping, production has greatly increased. The marketing question became a serious problem after the bumper years of 1933-1935. These three good years were quite exceptional and produced something of a panic amongst small producers. As a consequence the craft took steps towards better organization and became more self-assertive.

On the other hand the glut which began to accumulate in 1935 very soon disappeared after the crop failure of 1936. The present season is very encouraging and it is anticipated that a crop well above the average will be gathered.

Production has been doubled during the past ten years and is now approximately 40,000 cwts. (During the glut years of 1933-1935 this figure was considerably increased.)

With the rise in the status of the craft a certain amount of "liveliness" has been generated towards imported honey, including that from the Dominions. Several suggestions have been made to increase the customs duty of seven shillings per cwt.; it has even been suggested that Dominion honey should pay duty. At the moment there appears to be little chance of any alteration in the present arrangements.

Imports 1930—66,997 cwts.

Imports 1932—80,426 cwts.

Imports 1935—64,029 cwts.

Imports 1936—76,000 cwts.  
(approx.)

Average—73,000 cwts. (for the past seven years including years omitted.)

Imports show a relative stability.

The official *per capita* consumption for 1927 was under four ounces per head, which is a ridiculous figure as compared to your sixteen ounces per head for the whole of the United States. Despite the increase in local production in Britain the *per capita* consumption is little more than four ounces per head (the net imports in 1927 were approximately 73,000 cwts.).

The outstanding feature of the present imports is the rapid increase from Canada (1936—20,494 cwts.). The other factor of importance is that ten years ago 50 per cent of imports came from foreign countries, while today the reverse is the case, the bulk now comes from Empire sources.

The general summary of the position here is to work up a case for the taxation of foreign honey with a preference for Empire honey. A demand is to be formulated for the more correct labelling of honey in general. It is also proposed to forbid the claim of the presence of English honey in a blend of imported. It has been disclosed that during the crop failure of 1936 several instances occurred where packers were selling imported honey as English.

Sometime back there was a strong feeling to the effect that imported honey was a serious contributory factor in the spread of American foulbrood in Britain. The recent work of Dr. Sturtevant in this field has put a stop to this belief.

During the past ten years there has been a great increase in the consumption of artificial honey including commercial glucose products, which have become quite a menace to the genuine honey trade. One brand is labelled as containing vitamins which is a claim that we cannot advance for the genuine article. Artificial honey sells much cheaper and some people prefer it to the real article in view of its milder and standard flavor.

As the law stands at present in Britain nothing can be done and there seems little chance of any alteration at present.

In the U. S. a large quantity of honey is packed after filtering to remove the colloids, which offers many advantages for the "clear" honey trade. The feeling over here on this question is that such processing by filtration would be looked upon adversely and it is contended that such a product would no longer be "pure honey." It is felt that processing should be so declared on the label. It is almost certain that the existing laws operating in most countries in Europe would debar this product, although such a position would probably not arise if this processed honey were sold for the manufacturing trade.

# Soil Conservation

By DeWitt C. Wing,

U. S. Dept. of Agriculture,  
Washington, D. C.

A TIMELY, meaty editorial on soil conservation appeared in the June issue of *The American Bee Journal*, of which I have long been an appreciative reader. Once a land flowing with milk and honey, the wealth of our forest, grass and crop areas has been cashed, washed and wasted until the nation, at its roots, is, like the old, grey mare, "not what she used to be." We as a people have been dangerously tardy in recognizing the loss of soil fertility and the depletion of our farm and grazing lands. Apparently, we have assumed, until comparatively recent years, that, as our land was vast in area and rich in fertility when it was discovered, it would always take care of an ever-increasing domestic population.

In 1878 Major J. W. Powell prepared a report to Congress on the colonization of the Great Plains. It defined the limitations of dry farming in the short-grass region, set the minimum practicable farm unit at 2,560 acres, demanded communal pasture and residential development. It recommended a program that would have saved 700,000,000 acres from ruin. It didn't create a ripple in the consciousness of the nation. People generally were not interested. Why bother about saving land or preventing erosion by wind and water in a country so big and rich as our own? If farms wore out, there would be other farms to exploit.

Scarcely anyone 50 years ago dreamed that some day dust storms would be common and destructive in areas of the Great Plains where grasslands were later plowed up for crop production, or over-grazed. Nor did many men believe that the loss of soil fertility through washing and cash-crop farming would some day be so serious as to require the use of fertilizers and lime, even on some of our best farming lands.

Down to around 1900, our knowledge of soil fertility losses was meager and poor. Even as recently as 1903, two recognized leaders in their field published a bulletin, addressed to farmers, in which they said that "practically all soils contain sufficient plant food for good crop yields," and that "this supply will be indefinitely maintained." Many people at the time liked to accept this statement as

truth. It was pleasant to take. It encouraged farmers to continue mining out their soil fertility, and selling it at a loss to their soil and to themselves. It encouraged consumers to believe that an abundance of cheap and cheaper food could be indefinitely produced by farmers. It encouraged statesmen in or out of Congress to believe that farmers were all right for all time. Back in 1903, very few agricultural leaders realized that the increase and increasing expansion of rowed-crop production in the country was rapidly multiplying the losses of top soil through erosion by water.

Now that the horse is stolen, we are beginning to fix up the stable door, and it is better late than never to try to make a good job of it. We are at last trying to check the destruction that has robbed us of 50 million acres of once fertile, productive land, largely destroyed the top soil of an additional 125 million acres, and affected a further 100 million acres. Farmers, ranchmen and others, trying to make a living and profits on land, are now cooperating with government, state and local agencies in conserving and improving the nation's crop, grass and hay lands. Since 1932 this national effort, made by millions of farm-owners and operators working together under programs that encourage them to act, has produced conservation results on a large scale. Equally important, it has aroused and informed the interest of the American people in the national duty of taking care of their soil resources, which are the sources of their life and welfare.

Practices included in the 1936 AAA conservation program which save and improve the soil were carried out on about 53 million acres. Alfalfa, clover and other legumes, alone or in mixtures, were seeded on approximately 34 million acres; about 7½ million acres were planted to green-manuring crops; 2 million acres of pasture were seeded or improved, and 5 million additional acres were protected from erosion by the use of mechanical means available to most farmers. Under this year's AAA program, a bigger and better job of the same kind is under way. Sustained efforts to hold and build up the soils of the nation are in the interest of all the people. We have about 360 million acres of crop land, of which about 100 million acres is in corn, 35 million in cotton, and 20 million in potatoes, sorghums and other crops that leave the soil exposed to the rain during the growing season.

Farmers want to take care of their land, and will do so if they can afford to make the necessary efforts. They will spend money, if they have it, to conserve and increase the fertility of their soils. Last year they spent \$170,000,000 for fertilizers, and many millions for lime. For the nine months ending March 31 this year, sales of fertilizers to farmers increased 30 per cent over those for the corresponding period in 1936. Farmers will continue to spend their increased income to conserve the yielding power of their soil. We eat about 150 billion pounds of food a year, besides fish. Food and fiber production takes an enormous quantity of fertility out of the soil every year, and wind and water remove a vast total of fertile top-soil from the land.

A writer in the June issue of *The American Bee Journal* refers to the "influence of food on brood rearing," and on "the health of bees." Foods produced on impoverished, sour, eroded land can hardly be good for man or beast. Such foods are deficient in one or more of the vital mineral elements. Quality and nutritive efficiency in foods depend on the presence and availability of these elements in the soil. Quality is more important than mere quantity in the human diet, especially for children. Cannibalism originated in the defects of the food supply. Why do sows sometimes eat their own pigs? Why do chickens sometimes become cannibals?

During about 75 years in particular, preceding 1933, there was no widespread active consciousness of the soil as a basic, living resource which could be worn, weakened, soured, washed away and blown loose, and widely scattered. Many a farmer drew heavily on the fertility of his best fields in order to pay off a mortgage or buy more land. It was the habit and the practice of farmers and stockmen to produce to the limit on all suitable land that they controlled and could operate; and, having no organized bargaining power, to sell their products for whatever they could get. What happened, therefore, was that the nation's soil fertility was farmed out and cashed on a prodigal scale, and an enormous wash-off and loss of valuable top soil occurred.

All of us are parties to depleting and wasting the national birthright of soil fertility. The soil is the first national bank of America, and the people's withdrawals of wealth from it are national debts that can gradually

(Please turn to page 452)





# Bees Among the Heather

By John Mavie,  
England.

CONDITIONS of beekeeping in America and Britain vary so much that slavish imitation on either side is impossible. In America your climatic conditions give a stability wholly lacking in Britain. The size of your crop may vary but you always get a crop, whereas in some years we get nothing. Neither equipment nor management will atone for the vagaries of the weather we experience. This makes commercial beekeeping very hazardous. It is unlikely that anyone over here can be sure of a living year in, year out.

This makes some of our beekeepers say that American methods are unsuited to our climate. Also, American equipment. But this is an opinion due mostly to prejudice and ignorance. We can all profit by one another's experience—even though adaptation is necessary, as it is. And we who are anxious to make the most of our hives are continually reading of what you are doing and sifting the

evidence for what may prove a help to us.

In the same way you are interested in what we are doing. This article deals with a form of honey production unknown in your country but it may have interest, and may indicate methods adaptable in very different circumstances. For heather honey is not obtainable outside the British Isles, and only in small areas even there.

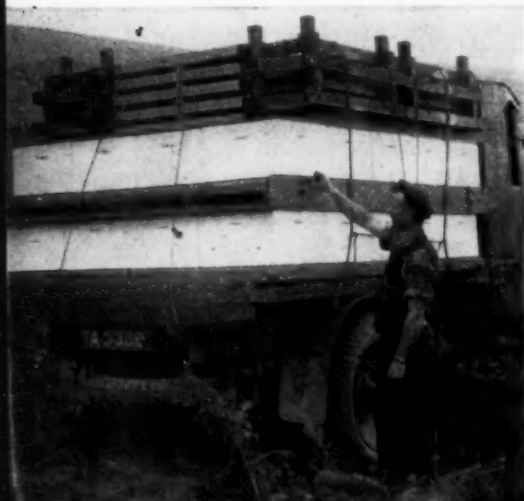
I do not forget the "bell heather" honey gathered in parts of northern Europe, but this is not what we call real heather honey. The distinction may seem arbitrary, as indeed it is, but the characteristics of true heather honey, i.e., *calluna vulgaris*, are so remarkable and so different from *Erica cinerea* that there is little likeness between them except in flavor. The honey from bell heather is thin, and easily extracted, whereas the honey from *Erica vulgaris* is so thick that the only feasible way is not to extract it at all but to crush the combs. This makes a very expensive kind of beekeeping. A crop of heather honey running into tons means the destruction of thousands of good combs. At the end of the season such a beekeeper has no extracting combs left, and not a lot of brood combs.

In England, and indeed in Scotland, we have only one apiary doing this on a large scale. It is the apiary of the Monks of Buckfast Abbey. They produce as much as twelve tons in a good season. And in doing it they have to destroy five or six thousand

combs. In the accompanying photographs a picture of the press they use is given.

Obviously, such a crop is frightfully expensive to produce, and entails a method of management different from ordinary. For even brood combs are crushed, as well as super combs. When the heather is yielding nectar it is in amazing quantities, and at the end of the season. The bees stuff the honey into every available corner. It takes a young and exceptionally virile queen to keep any sort of brood nest going, and because heather honey alone is bad wintering food a big proportion of combs has to be taken from the brood nest, and rapid feeding with sugar syrup practiced to get new foundation drawn out and sufficient new stores sealed over before winter comes. For this reason Brother Adam invented the feeder to which reference has been made in these pages from time to time. Necessity is the mother of invention and because Brother Adam had to find the best and quickest way to get stocks fed up for winter he has succeeded in evolving the only feeder which is perfect for the job, and thereby made feeding under any circumstances a simple task. This rare and limited form of beekeeping has thus furnished all beekeepers with an appliance of universal utility. In the picture "Home from the Heather" these feeders are shown in position for use. They make comb building a rapid process and feeding an absolutely simple affair.

"Going to the Heather" indicates that heather honey production is a type of migratory beekeeping. Two crops are gathered at the Abbey, and



Colonies loaded on air racks for moving to the heather.

the one is made to help the other. From the gardens where the hives spend the winter and summer they are taken to the moors of Dartmoor. The combs built for the clover crop are extracted and given back to the bees when they have been placed on the heather. Each stock is headed by a queen not ten months old.

For four weeks they remain on the moors. Then the big lorries fetch them home. Because the roads are often no more than tracks Brother Adam has devised a method of packing that is most efficient and rapid. A cover of wire cloth, in a wood frame, fits the hive body exactly, and, through this, two iron rods push down between the combs to engage in threaded brass plates sunk in the floor board. A few turns of the rods and floor board, body, and wire cover

A monk liberates the bees.



graphs reproduced.

It seems bare, bare country, yet the ground is purple with heather bells. The flow of nectar is wonderful. Even in the moonlight the bees have been known to work as at noon-day. But the drain on the stocks is colossal. In the one month the bees exhaust themselves utterly. So, immediately, the bees get back to the Abbey—about the end of September—Brother Adam has a young queen waiting for every stock, and while

er Adam has reduced it to such a system that the results never vary. He never knows what disease is (largely due to renewing so many combs annually, I think), he never has any winter losses, for he has a feeder that makes it child's play to give sufficient food at any time—autumn or spring—and he begins each season with a young queen, mated not more than four or five months ago. New combs, young queens and a feeder always ready to remedy shortages in food, and bee-keeping becomes nearly foolproof.

Of course, it's always like that! The cleverest invention only makes us say, "Why, I could have thought of that!" The smoothness of perfect organization causes a business to appear as though any fool could run that store. And Brother Adam has devised so perfectly, and timed everything so accurately, that the very difficulty of getting crops of heather honey has been turned into a cause for the most successful apiary in Britain.

When the honey is gathered it is stored in tanks through which hot water pipes (hot steam) run to and fro, as illustrated. These are the work of Brother Adam himself—twenty of them in a double tier—movable on tracks with ball bearings; and each can be heated separate from the rest. The honey is sold in highly decorated cartons; and not alone at the Abbey, to pilgrims, but in most of the leading stores in the country.

Such beekeeping is far removed from any that I know of elsewhere.



Buckfast heather honey from the Abbey apiaries.

are tightly screwed together, and no amount of jolting can displace combs or spill bees. Worse roads cannot be found anywhere yet accidents or escaping bees are unknown. The photograph of the laden lorry shows how Brother Adam packs them on the lorry itself. Views of typical moorland country with hives established after removal to the heather are also shown on the several photo-

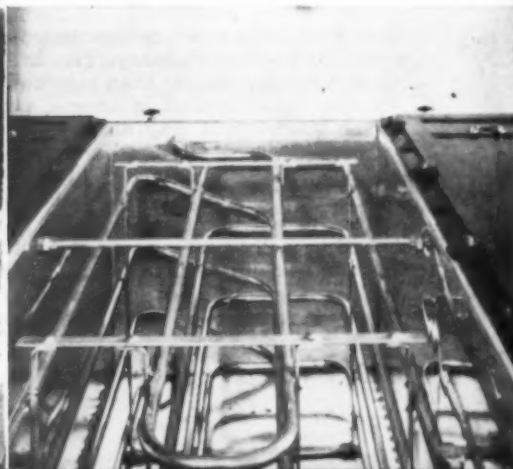
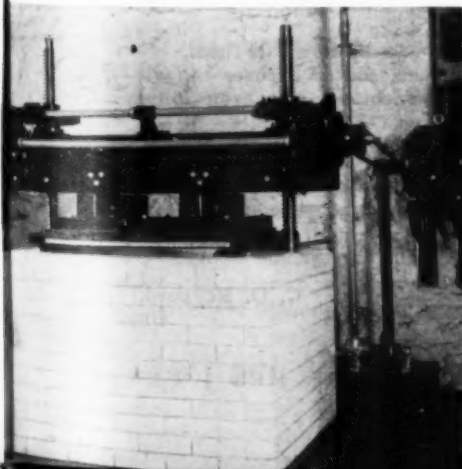
feeding is being done he introduces her. This ensures brood rearing through October and part of November until, by the time of cold weather, every colony has ample stores of sugar syrup, and a proportion of heather honey, rich in pollen, together with a young queen and emerging brood.

It sounds very difficult and troublesome beekeeping. So it is; but Broth-

The heather press, forty tons pressure.

Cutting out the combs of heather honey.

Interior of honey storage tank.



Four hundred queens reared and mated for a given day in September; four hundred feeders in position—one for every stock—immediately the lorry brings them back from the moors, and every stock fed up for winter within seven days; thirty-five thousand pounds of thick heather honey crushed out of seven thousand combs, and stored in those wonderful tanks in under ten days; two thousand cartons filled inside one hour, as requirements demand; five thousand pounds of sugar converted into syrup

in five operations, and fed to the bees in five days; and five thousand to seven thousand empty frames boiled in lye, and ready to be fitted with new foundation in the same time.

And not a sticky floor anywhere, not a messy corner; spotless cleanliness everywhere!

Over it all gleam the walls and towers of that gorgeous Abbey. Here and there, about the grounds, hurry black-robed monks. Within the cloisters reverent men pass, to and fro, to keep tryst with God.

—ABJ—

## "The Nature and Use of Honey in the Bakery"

By Charles A. Glabau,

Technical Director, Bakers Weekly.

### Resume.

A SEVEN-PART article on this subject appeared in the Bakers Weekly beginning with the December 19, 1936 issue and ending with the January 30, 1937 issue. It is exhaustive, typically for the baker, and altogether the finest material for the service of the bakery industry we have seen.

Part 1 considers the antiquity of honey, the composition of American honey, and the types of honey most usually available for bakery use, namely, orange, clover, sage and buckwheat. A test tube photograph in the December 19th issue shows color variations for honey and preference of course is given to the two lightest, orange and clover.

"Sage honey may be used in all forms of dark goods, such as honey cookies, old-fashioned lebkuchen and milk and honey bread made of whole wheat flour or a combination of whole wheat and white flour. It may be used in cracked wheat bread and some forms of rye bread. It is an excellent flavoring agent if one is after honey aroma and flavor.

"Last in the list is buckwheat honey, which comes largely from those states where buckwheat is grown. New York State is the most prominent state for buckwheat honey. This honey is somewhat darker than sage honey and runs parallel in aroma and flavor intensity. It may also be used in various forms of dark cakes and cookies as well as breads."

Part 2. "When he thinks of honey as an ingredient of the bakery, the baker usually associates it with various kinds of Christmas cakes and cookies. Seldom does he think of honey in connection with everyday

commodities. This is probably due to the practices that have come over from European countries. There are, nevertheless, bakers who use honey for other purposes and some employ it in considerable quantity in such things as bread, rolls and fillings of various kinds."

Director Glabau in this second article also tells the baker how many shades of brown can be produced in cake mixtures if the honey varies in its strength by selecting different types of honey and by varying the hydrogen ion concentration of the cake mixture. The picture shows quite a variation in the color as a result of experiments by Mr. Glabau. A graph is also used to show the score of the cakes and a table showing how variations in the selection of honey and hydrogen ion contents can bring about a corresponding variation in the acid and alkaline contents of the cakes resulting.

Part 3. The value of sage and sage-buckwheat honey is discussed in this article and a study given of value of each with varying alkali and acid contents.

Part 4 discusses buckwheat and Porto Rican honey and a series of cakes are pictured made with tables showing variations in alkalinity and acid as with the other honeys used in these laboratory tests. Part 5 discusses tupelo and alfalfa honey in the same manner.

The sixth article considers blends and the final and concluding part makes this interesting statement: "Since bakery products in themselves vary greatly from the standpoint of color, volume, flavor, texture and all of the other characteristics, it becomes possible to find a use for every

one of the honeys that are produced in abundance in the United States.

"Such things as sweet rye bread, whole wheat breads and honey cakes of the dark variety lend themselves to the use of dark honey—honey with a strong aroma and flavor. Light products, such as sweet yeast doughs, light layer cakes, cup cakes, loaf cakes, and fillings and icings of various kinds can be considered as carriers of the lighter types of honey."

The baker using honey is advised to consider the technical information given in this series of articles and by scoring his products finally to arrive at a satisfactory manner in which honey may be used in his own shop.

—ABJ—

## Intermountain Crop Proving a Disappointment

Beekeepers in the Intermountain region are disappointed with the crop, although colonies are in good condition and may still secure more honey from alfalfa. The crop as a whole is a month late.

In Wyoming, heavy rainfall kept the plants in good shape. In Utah, beekeepers report bees hard hit with plant poison, but with honey yields improving due to alfalfa. Montana predicts better yields than last year, although lack of rain in the western and central part of the state is shortening the crop somewhat.

The honeyflow in Idaho is discouraging, with the first crop of alfalfa yielding little. The prospects for the remainder of the season are fair. Some beekeepers predict the smallest crop in ten years. There is little surplus.

The honey, however, is of high quality, bringing a ready market, with white honey moving in carlots at 5¼ cents and in small containers at 7 to 8 cents. Beeswax is being offered at 23 to 25 cents per pound.

Glen Perrins,  
Utah.

—ABJ—

## Argosies

My argosies are sailing,  
A-sailing out to sea;  
Thru azure skies their questing lies,  
A golden toll their fee.

Far wafted odors call them,  
Sweet scented breezes call;  
Jove's nectar drips from blossoms' lips,  
O'er many a garden wall.

A-roaming far, they'll conquer  
Full many a galleon free;  
And, O, so bold! filch all their gold,  
And bring it home to me!

C. O. Reynard,  
Ohio.



# Geo. W. York

WE regret to have to announce to our readers the death of George W. York, editor of "Bees and Honey," California beekeeping magazine, which occurred at Los Angeles, at 2 P. M. on August 6. Another of the older pioneers passes on.

George Washington York was born on February 21, 1862, at Mount Union, Ohio. His early life was spent in Ohio. At the age of 16 years he began teaching school, pursuing his studies at Mount Union College in the summer vacations, being graduated from that college in the commercial department in 1882. Two years later, he was engaged to work for Thomas G. Newman and Son in Chicago. Newman was then editor and publisher of the "American Bee Journal."

In 1892, Newman's health failed. He had great faith in his assistant, York, and the American Bee Journal was sold to York, who then became editor and publisher. He had paid only one-third down on the purchase price of the paper, but was able to clear himself entirely of debt within six years.

York retained the American Bee Journal and was its active head until May, 1912, when his entire publishing plant including the American Bee Journal was sold to its present management, the Dadants, and removed to Hamilton, Illinois.

York was ready to retire. For twenty-eight years he had been connected with American Bee Journal, with bees and beekeepers, and for twenty of those years editor of that magazine, which, much of the time, was a weekly magazine. York bought himself a home in Idaho, and prepared to "go west and live a life away from the busy hum of the city."

But ten years of comparative quiet were not exactly easy years for a man who had been active and busy. So, we see him again in 1922 taking over the little magazine of the Alameda County (California) Association, "Bees and Honey," and removing it and himself to Spokane, Washington, to start again into publishing and editing, this time "York's Bees and Honey."

In 1924 the name was changed back to "Bees and Honey," and in 1925 the publication office was changed to Seattle, Washington.

In 1930 Mr. and Mrs. York decided to go to California. They located at Alhambra, near Los Angeles, where the publication has been handled since that date.

Three years ago York was afflicted with paralysis, but his indomitable will and his desire to be active enabled him to continue in active service as editor and publisher of his be-



GEORGE W. YORK

loved bee magazine until a few days before his death.

During his publishing career, he also was at various times, representative of various bee supply firms, both in Chicago and in the West, besides packing honey to quite an extent while in Chicago. But his chief work and his main love was his editorial and publishing business for which he was particularly well fitted through early training and long association.

Few beekeepers past or present have had so wide a range of experience and acquaintance with beekeeping and beekeepers. The American Bee Journal was but twenty years old when he became connected with it. He was at its helm during those years of active growth following the Langstroth hive invention, as well as the honey extractor and bee comb foundation. He saw the comb honey sec-

tion introduced, the bee smoker, the excluder, and many other beekeeping devices which we take for granted in our present busy age.

He not only knew but kept close contact with most of the leaders of beekeeping in America who have passed on to another world. Langstroth, Newman, Charles Dadant, Benton, Hetherington, Hutchinson, Gallup, Alley, Cook, Poppleton, Harbison, A. I. Root, and many others were his colleagues.

He saw the development of queen rearing by the Doolittle and Alley methods. Dr. C. C. Miller was his right hand man while he was in Chicago.

And he retained and still had a close contact with that present world of commercial beekeeping and beekeepers, at the time of his death. It is (Please turn to page 452)

# A Visitor from India

**D**URING every season we have many visitors at the American Bee Journal offices. This year one of the most interesting has been Sardar Singh, a native of India, who, in the course of his tour of our country, stopped off with us for several days. Sardar Singh is a teacher in the Agricultural College, at Lyallpur, in the Punjab. About a year ago he came to the United States to study modern beekeeping methods and he has been



(Photo by Dr. O. W. Park)

at Cornell University until April, when he began his beekeeping tour. Before he reached us he had covered most of the eastern seaboard, the entire South and Southwest, the Pacific coast and mountain states and a good part of the central states as far as Illinois.

Although beekeeping was the topic we were supposed to turn our attention to, more often than not, because of our natural interest, conversation turned on India. During the days he spent with us we contacted the East through the presence of our charming guest and his considerable information about everything Indian from the proper manner to tie turbans to the Nationalist movement and Annie Besant.

In "Gleanings in Bee Culture" for July Sardar Singh has told about beekeeping in India. He has written there, and he said to us, that modern beekeeping, as it is understood here, has just begun to be practised. The problem is to adapt everything to the native bee, *Apis indica*, which is extremely widespread (*A. mellifera* is practically non-existent) or success-

fully to introduce Italian or Caucasian bees to India—a really prodigious undertaking.

That progress is being made is evidenced by Sardar Singh's presence abroad. The task, though, is a large one, but the importance of beekeeping to India is realized by the government, and so it is likely that as time passes a considerable change will occur in the beekeeping scene there.

Sardar Singh visited us in the company of a young American back from five years in India. They had met in the Punjab and, by strange coincidence, again at Ames, in Iowa. It was amusing to all of us (including our guests) and worth remarking that while Sardar Singh has travelled more widely in the United States than any of us natives and possesses more information, at least, topographical information, about the United States than we do, he had to turn to his young American friend for informa-



tion about places in India, remote from the Punjab, which the American had visited but which he had not!

The two accompanying photographs were taken during Sardar Singh's visit at Ames and at Hamilton. He is not fond of publicity, and we hope not to annoy him by publishing them here in the belief that this gentleman from the other side of the world will be as interesting to our readers as he is to us.

—ABJ—

## Pictures for Everybody

### Cover Award.

This goes to C. H. Pease of Connecticut, who also had an article in the August number "Cellar Winter-

ing"—page 393. Mr. Pease said little about the picture but little needs to be said. Goats in the bee yard; the beekeeper's lawn mowers. Very good, too. It is not necessary to fence in, either sheep or goats and they both do a good job in keeping the grass down where it belongs.

Can you get in this cover picture class? If you have subjects in photograph and you think you can make the grade, why not try it? Send them in. Five dollars each to the successful cover contestant.

All other pictures suitable for publication will be bought for \$1.00 and you may also have a choice of any book published by the Journal, or have your subscription extended for one year. A list of books will be sent with the acknowledgment of the pictures which succeed in this contest.

### Other Pictures This Month.

Hoyt Taylor gets another place on page 444 with the pictures of the horse. This is getting up in the top class with pictures.

B. I. Evans on page 445 has something really fine in a big comb honey yard; and J. C. Ripplingale on the same page deserves a handshake for a pretty commercial apiary in Manitoba.

Ray Snyder on page 446 gets in a little beyond season, although the picture was sent soon enough. Twenty-year old boy enthusiast. Go to it, Ray.

Leonard Robins is breeding a new beekeeper on page 447 and, of course, we are glad he likes Modified Dadant hives. So do we!

It should be mentioned too that the picture of Sardar Singh on the adjoining column was taken by James C. Dadant, and the pictures of the Illinois meetings, page 454 and 455 by Robert Dadant of the younger generation here on the staff. Pretty good pictures, boys. I think you have some of the older gang beat.

### What Can You Offer?


So, you see how these pictures go. We get more every month and they are all interesting. Try your hand at it. You can't lose. We will send back what is not kept and it won't even cost you the postage. So, get busy!

—ABJ—

## Dr. Tanner Hopes for New Bee

Canadian bees produce more honey than Utah bees according to Dr. Vasco M. Tanner of Brigham Young University. He reports great results from bees which he saw at the Lethbridge station in Alberta. Perhaps they can do the same in Utah. The reason for their unusual production, often reaching 26 pounds net gain per day, is due to the abundance of clover and the long days in that north country.

Glen Perrins,  
Utah.



# A Virginia Notable Among Our Beekeeping Friends

By A. D. Hiatt,

Virginia.

RECALLING a previous article in which we mentioned the activities of our senior senator, the Honorable Carter Glass, as a Virginia beekeeper, should we call it a coincident that our junior senator, the Honorable Harry Flood Byrd is also a "Keeper of the Bees"?

Three thousand acres of orchards scattered through six counties in two states, containing all varieties of apples, are pollinated annually by millions of honeybees placed in scattered locations at the direction of T. B. (Tom) Byrd, manager of the Byrd Orchards. Four hundred fifty large packages or nuclei and about two hundred fifty established colonies are moved into the Byrd Orchards annually and kept there throughout the blooming period for their service as pollinating agents. Of all their operations Mr. Byrd says this is the most important; for a tree is known by the fruit it bears and by the grace of the bees they know their trees.

There is much acreage, so we are told by Mr. L. D. Arnold, secretary to Senator Byrd, sufficiently near beekeepers or wild bees to secure a reasonable fruit set, but in many locations bees must be supplied. For the most part bees are rented locally or moved in from the South in the form of orchard packages. Mr. Arnold says they have plenty to do without managing the bees.

About twenty-five years ago Harry Byrd purchased an old delapidated orchard near Winchester, Virginia. A few good years with careful management and the Byrd Orchards became a great industry in the Winchester section of the famous Shenandoah Valley. With an annual production of more than six hundred thousand bushels of fine apples, and markets extending into several foreign countries, the Byrd Orchards are considered the largest individually operated in the world.

And who is the man behind the scenes? Is he just another inexperienced upstart sliding into prominence through some political upheaval? Not on your life. As a public servant for a number of years Harry Byrd proved his ability in the management of state as well as personal affairs. During the late twenties as governor of Virginia he instituted management in many

state departments resulting in economies that virtually cleared Virginia's debts. In 1932 Ex-Governor Byrd became a colorful candidate for the Democratic presidential nomination. At the beginning of the Roosevelt administration, Harry Byrd was appointed by Governor Pollard to fill the unexpired term of Senator Claude A. Swanson on the latter's appointment as Secretary of the Navy. In 1934 he was elected to the U. S. Senate by a huge majority.

More colorful still are the activities of the third Byrd brother, Rear-Admiral Richard (Dick) Evelyn Byrd, world famous explorer, conqueror of the polar regions, pioneer of air travel, writer and lecturer.

Aye! Aye! Sir! We hope you can see, We've more to offer than a bee or a tree.

For who can remind us of great men like these,

All from a family of "Keepers of Bees."

Tom, Dick and Harry are Byrds of a kind;

And good old Virginia can say, "They are mine."

—ABJ—

## Skunk Trap

For several years some of my apiaries have been disturbed by skunks. After trying several kinds of traps, I finally tried bait boxes that I made of scrap lumber which were a success everywhere they have been tried. I use six boxes to an apiary of one hundred or more colonies. They will last for years and one baiting seems to do the work well. The animals generally get several yards away before they expire.

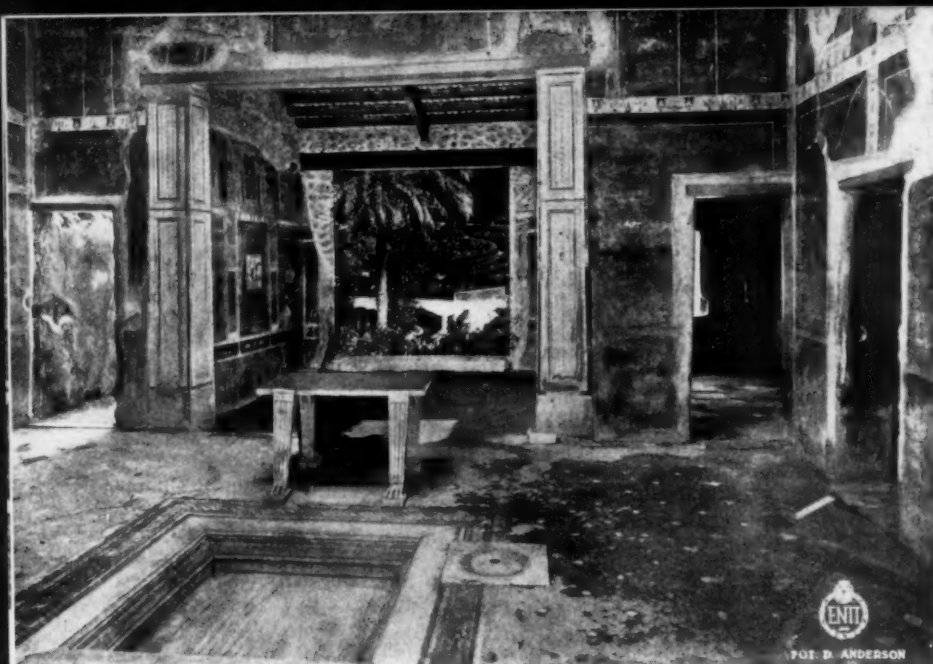
To make the box, take two 1x6x3 ft. and two 1x8x3 ft. pieces of lumber. To one of the 1x8 pieces nail two pieces 1x1x6 inches long crosswise two inches from the middle and you will have a 4x6 space between them. Next with a 3x5 inch bit bore six holes nearly through the board between them to receive the bait. Nail on the sides and top and you have a box six inches square inside and three feet long, with bait holes 16 inches from the ends. This is to prevent a hungry dog from getting the bait.

Prepare bait by adding 8 ounces crystallized strychnine to a small can of salmon or other fish, mix thoroughly and press well into holes. This amount is enough for six boxes.

W. C. Evans.  
Colorado.

A sylvan scene in the Byrd orchards.





In the background, a wax picture in an ancient building in Pompeii.

Unbelievable, but true, beeswax comes through a fiery disaster in perfect condition.

# Through Molten Lava of Mt. Vesuvius

By J. T. MacMillan,  
New York.

**T**ODAY, on rare occasions there come to us reports of colonies killed by excessive heat that has melted down the combs and clogged up the entrances with wax. Much more frequently, a bitter experience has been to find that through carelessness on our own part we have lost many valuable combs to the greedy appetite of the wax moth larvae.

With these ever present examples of the seeming fragility of beeswax in mind, it may be difficult to believe that the most permanent form of painting the human race has so far discovered is one in which beeswax plays the leading role. This enduring type of mural and portrait painting is most commonly known as encaustic, from the Greek, "to burn in." Its base is pure, bleached beeswax.

The great durability of beeswax painting, as it has also been termed, is in this combination of heat and wax. The proof of its permanence is to be found in Egypt and in the story of the devastated cities of Pompeii and Herculaneum, of which a brief summary may not be out of place here.

On the shore of the beautiful Italian Bay of Naples there towers some 4000 feet above the placid sea, Mt. Vesuvius, a volcanic cone of singular

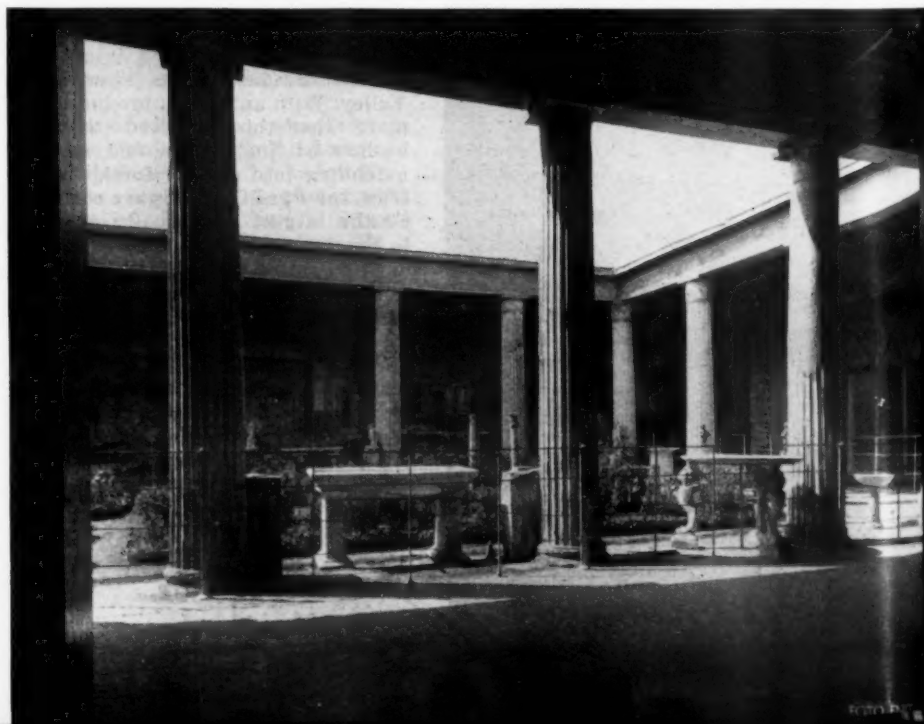
picturesqueness—and destruction. In the ancient days this volcano had long been quite passive. Its slopes were covered with many peaceful vineyards and the hum of the Italian honeybee was not unknown there. Close by stood the pleasure loving seaside resorts, Pompeii and Herculaneum.

Following a short period of rumbling and casting forth of cinders and volcanic ash, on August 24 in the year 79, Mt. Vesuvius proceeded to blow off 300 feet of its top in one of the worst earthquakes the world has known. The two nearby provincial cities were utterly blotted out of ex-

istence in a few hours by a blanket of hot, sulphurous ashes and molten lava. Over 3000 lost their lives.

Then there followed seventeen centuries, during which all knowledge of the very site of these once populous cities became completely forgotten. Beginning with their accidental rediscovery in 1763 and continuing to this date, excavators have uncovered Pompeii and small sections of Herculaneum from their blanket of 50 feet thickness. Since then Pompeii has been maintained as an exhibition place.

The outstanding sights that greet the visitor of ruined Pompeii today,



Inner court of one of the better Pompeian homes.



Through the ruins towards Vesuvius.

are the marvelous wall paintings found alike in humble dwellings and the mansions and villas of the great. Tailor shops can be seen with murals depicting every detail of a one time rushing business. Nor are the paintings confined to the more protected interiors, some of the finest being on the outer walls under the remains of balconies, facing the elements again.

The ancient Pompeiians evidently loved beauty and color for some of the most vivid works of art lined the walls of their public and private baths. The ravages of soap and hot water have done little more damage than have 1800 years of being, for with scarcely an exception the colors appear as fresh and bright as though they had been put on yesterday. The only apparent damage is due to cracks in the walls; or to marks caused by falling masonry or by the excavators' pick and shovel.

More than that, they have not been "fixed up." For, unlike oil paintings—which require constant care and touching up to restore faded colors and repair cracks in the paint film—wax paintings cannot be restored or retouched except to remove surface dirt. The beeswax is practically unalterable after the application of heat. This makes wax a very difficult painting medium as errors cannot be easily corrected. As a matter of fact, except for actual, physical damage and dirt, there is rarely any need for retouching a finished wax painting, so firmly attached are the brilliant and true colors.

More than one artist has said that encaustic does not scale off; and neither heat, moisture nor sunlight have any effect on the striking warmth of the colors. For these reasons, Roman and Grecian ships of

war used encaustic for decorative purposes. Of this, it has been said by Pliny to have been the only paint long able to resist the corrosive action of the salt water and sun.

Whenever other bases for colors, such as egg, gums or glue were employed by the ancients, wax was used for the bright red colors in order to hold these fugitive shades. Almost all other mediums let the reds fade into a deep black with the passing of time. The change is caused chiefly by sunlight but is aided by chemical action within the film of paint. In this connection, many regretfully have wished that the world renowned Michelangelo might have done his mural works in the encaustic medium.

Along with many other evidences of deterioration, this has also occurred in practically all oil paintings; most of which are not in as good condition after 200 years of existence, as wax paintings are after 2000 years. In fact, because of the weaknesses of oils, the most important men in some art museums are the restorers. These artists re-paint the old masterpieces in oil to give them a presentable appearance. Then too, frauds in oil paintings are easy, by comparison with wax paintings, and many of the old masters having been copied, these copies have been touched up to simulate the work of some venerated painter. Even experts have been deceived. Such work on wax paintings is so difficult as to deter the hardest workers.

Of course it is only recently that the encaustic methods and formulas of long ago were ascertained. For many years great controversies have led to a host of theories. Modern scientific research is now agreed that several methods were in use. The one

indispensable item was the by-product of the honeybee, which Pliny called Punic wax. Sometimes a knife-like tool was employed to spread the different colored, molten waxes on the wall or panel. At other times the brush was used to paint on the melted beeswax.

The Pompeiians artists frequently prepared their colors beforehand, in the shape of crayons. These were then melted into little pots and spread on with a blunt, heated instrument. The heat usually was supplied by a small charcoal stove which stood by the side of every artist.

The final step was an application of pure, melted beeswax, which was briskly rubbed with a linen cloth to finish the picture with a soft sheen. This semiglossy sheen, peculiar to beeswax, makes the encaustic medium admirably adapted to mural work, as it permits people to view the picture from any angle, there being no reflections to confuse the eye.

Further research has proved that beeswax in itself is of extraordinary permanence. Plenderleith analyzed a lump of beeswax found in a painter's pot in a tomb of the 19th Dynasty of Egypt. This specimen is over 3000 years old. His analysis shows the melting point, appearance and chemical content as virtually unchanged by the passing centuries.

Another proof is to be found in the results of a recent art experiment in which melted beeswax, among other substances, was applied to a wooden panel. The microscopic film of beeswax prevented atmospheric moisture from reaching the wood panel 60 times better than linseed oil, five times better than the average varnish and was just equalled by the last substance, ceresin wax.

In view of these and other findings, scientists now state that the beauty and permanence of wax paintings known to be two and three thousand years old, is not due entirely to a blanket of volcanic ash nor to the protecting sands of an Egyptian desert. While these have prevented rampant theft and destruction at the hands of the ignorant, their influence ends there. Now, full credit is given to the remarkable preservative qualities of melted beeswax.

—ABJ—

## Bees Hive in Church Poor Box

When the Rev. Father Edward McCallister decided to open the poor box for contributions he had a surprise. It had not been opened for four years, owing to the loss of the combination, and he found it full—of bees. There was also \$50 inside.

Catherine J. Justh Baross,  
Press News Clipping Service.

# EDITORIAL



## What Is the Matter With Honey?

In our July number we quoted a well known editor who criticized the extracted honey which he found for sale in the markets. Since that time we have received two more letters of similar nature, one from a prominent physician. From the Doctor's letter we quote as follows:

"I am rather concerned about the honey sold in the metropolitan area. I buy honey at random in the New York stores and have found them all rank. Of course the honey sold here in New York is liquid. It has a smoky, burnt taste and absolutely no flavor. Whether this is poor blending, overheating, or even adulteration, it is difficult to say."

The other letter complained that not enough care is used by the beekeeper to keep his equipment clean. Both these complaints come from men who are friends of honey but neither is satisfied with the product which he is able to buy.

One who makes a little investigation will soon discover that there is too much honey for sale which is poorly prepared and unattractive in appearance to say the least. The tendency of the time is toward the utmost care in the preparation of every article of food and any item which does not come up to a high standard is likely to be neglected.

The production of honey is one thing while the marketing is quite another. It would seem from such complaints as the above that there is room for improvement in our methods of handling our product.

Honey that is overheated or that is not properly strained may give a bad impression to the consumer and result in his loss as a permanent customer. We can afford to give the most careful attention to the details necessary to get it to the consumer in the best possible condition.

—ABJ—

## The Zofka Red Clover

The American Bee Journal is happy to have a part in introducing this most promising forage crop to American farmers and beekeepers. We hope to be able to publish a full report of this season's work with the plant in an early issue of this magazine.

Seed was secured directly from Dr. Zofka by our field editor for trial at the cooperative experimental apiary at his farm. For the benefit of our new subscribers we repeat that this cooperative experimental work is jointly supported by the Iowa Agricultural Experiment Station, the Extension Service of Iowa State College of Agriculture and the American Bee Journal.

The study of disease resistance has been in the hands of Dr. O. W. Park of the Experiment Station, assisted by Prof. F. B. Paddock of the College, and Frank C. Pellett representing this magazine. In honey plant studies Dr. J. N. Martin of the Department of Botany of Iowa State College joins the group. Dr. Martin has been making a study of the red clover problem for some time.

The red clover plot covers about one-tenth of an acre and has a very good stand. The seed was not planted until May, due to the press of other matters, but the growth was rapid and the plants began blooming in late June. By mid-July the whole plot was in abundant flower and the bees were visiting the blossoms freely.

It was apparent from the first that the bees were getting nectar as they settled down to suck each floret eagerly and seldom was one seen carrying pollen. Later nearly all gathered loads of pollen.

Dr. Martin began making measurements as soon as the flowers were abundant and has continued at frequent

intervals through the season. Numerous examinations show a considerable variation in the depth of the corolla tubes but all are much shorter than the ordinary red clover. The depth ranges from 5 mm. to 8.5 mm. in different heads with the average in the neighborhood of 6 mm.

Long observation of the behavior of the bees among the blossoms indicates that they are able to reach the nectar in nearly all the flowers of this red clover.

Our entire staff has been delighted to find that nearly every head that has matured is filled with seed, which indicates that the bees accomplish the pollination of this clover quite successfully.

Should this clover continue to live up to its present promise it seems probable that it may come into common use in the rotation on mid-western farms and that much new bee pasture may be the result.

The question of winter hardiness in this climate still remains to be determined. It takes several years and trial over a wide area to demonstrate the value of any new crop. Because a plant seems promising at first is no assurance that it will prove permanently adapted to new environmental conditions. Thus, while we are very hopeful that the Zofka red clover will prove a useful addition to forage crops for American farms, it is too soon to be sure.

Of special interest to the beekeeper is the fact that Dr. Martin's measurement revealed that this special clover yields nectar to a depth of about 2 mm. in the flower tubes whereas an examination of the common red clover showed only about half that amount. This indicates that a real honeyflow may be possible when sufficient acreage is available.

While beekeepers generally may be interested in the success of the new introduction, it is of special importance in the northern farm areas where sweet clover does not succeed. There no other crop has been found which takes the place of red clover in the farm rotation and if a red clover can be found which yields nectar freely to the honeybees it may do much to add to the prosperity of the beekeeper.

—ABJ—

## Forward March

In recent years every activity of the beekeeping industry has centered on the one object of increased honey production. The search for facts of fundamental importance was largely lost sight of. With the passing of the old masters there was no longer the spirit of curiosity which stimulated the naturalists of an earlier day.

The result has been that beekeeping has fallen behind other industries. We have seen pastures fail and beemen have moved to other localities instead of seeking new sources of nectar suited to the home neighborhood. We have only to observe what is taking place in other fields to realize that the solution of our problems is within our reach if only we are able to utilize the means which are available.

The study of the honey plants is an unworked field and with the same effort which has been given to the production of new flowers and better fruits bee pasture could be greatly extended. Hundreds of plant breeders are at work in an effort to originate new plants which are of interest for their ornamental effect and new fruits which have qualities which are lacking in those we now have. No one has applied himself to improving the nectar yield of the honey plants.

Beekeepers generally should encourage the research workers and lend them every possible assistance. They will open the door to unlimited possibilities.



## Earthen Jars for Honey

The suggestion comes from a correspondent who likes good honey that earthenware or porcelain jars be substituted for glass as containers. He mentions the fact that the old Greeks used such jars for honey and that the South Americans and Mexicans still do. He thinks there is a possibility that the acids and alkalis which new glass contains may destroy some of the fragrance.

Our friend calls attention to the fact that the best foreign marmalades as well as honeys are sold in such crockery jars and suggests that the packing problem should be carefully studied.

It would seem that some agency interested in furthering the interests of the honey producing industry might very well take up the study of the whole problem. It would be fortunate indeed if all the facts could be made known as to just what can be done to get our product to the consumer in the best possible condition.

It may well be that honey deteriorates faster when packed in glass than in jars which exclude the light.

—ABJ—

## Effect of Metal on Honey

From time to time the question is raised as to whether the common use of galvanized tanks for honey storage may result in injury to the honey. Every beekeeper has noticed that, when honey is removed from the tank, the appearance of the metal marks very definitely the point reached by the liquid. It seems probable that honey may absorb something from the metal and the quality may suffer as a result.

Honey is a very delicate product and any slight change in its character may greatly injure the flavor. Many of the large bottlers now use glass lined tanks for honey to insure a minimum of damage. If honey does absorb enough metal to change its character some better container should be found.

—ABJ—

## Pollen Storage

Beekeepers may find something of interest in work now under way at the Boyce Thompson Institute for Plant Research. Dr. Norma E. Pfeiffer is investigating the problem of pollen storage. The object there is to preserve a supply of pollen for use in breeding of plants, but it is quite possible that information may be brought to light which will be useful to the beekeeper as well.

The recent investigations by C. L. Farrar and F. E. Todd, of the Bureau of Entomology, have brought forcibly to our attention the necessity of a reserve supply of pollen. Once the facts are known there is little question but a way will be found to supply the need. It should not be difficult to harvest pollen at the proper season, but it remains for us to learn how best to make use of it.

—ABJ—

## The Kent Wild Clover

With reference to the Kent wild white clover mentioned on this page in the August issue, we are indebted to John H. Barron, of Cornell University, for further information. From his letter we quote:

"The ordinary white Dutch clover, seed of which is available in the seed markets is, for the most part, a biennial or a short lived plant. It does not make very many runners, has a rather upright growth and produces its blossoms on stems three or four inches long.

"Contrasted to white Dutch clover are the perennial types of white clover. It is these types which dominate in old pastures, meadows, and the like. These types differ from the white Dutch in that they are very distinctly perennial, produce many runners, grow close to the ground, have small leaves, make matted growth and produce their flowers on short stems. As one walks around and observes pastures he can find many variations in the type.

"The Kent wild white clover is the type which tends to dominate some of the better pastures in Kent County, England. It is characterized by its ability to make a very dense matted growth, by its ability to make a very large

number of runners and by its rather small leaves. When one sows Kent wild white clover he gets plants which are rather uniform in type."

Prof. Barron calls attention to the fact that, in New York pastures, there are many plants which are indistinguishable from the Kent wild white clover. It seems probable that this perennial white clover may be mixed with the white Dutch clover in some localities.

Since to the beekeepers belongs the credit of general distribution of alsike clover upon its introduction to America and also the sweet clover which the public rejected for so many years, they can be depended to further the spread of a perennial white pasture clover if a sufficient supply of seed becomes available.

—ABJ—

## September

With the coming of September we are reminded that another season is nearly over and that winter is just around the corner. We who live in the North are never free for long from the thought of winter. The summers are brief and the changes are great.

It is in the North, however, that the big crops of honey are harvested most consistently and where the greater part of our commercial honey is produced.

With the coming of September the northern beeman must begin preparations for winter. The sooner he completes his winter plans after the close of the honeyflow the better for him and for his bees. Bees which are given final attention early are in better condition to go into the cold period than those which are disturbed too late in the season.

It is important to be sure that every colony to be wintered has a vigorous queen, a large cluster of young bees and an ample supply of stores. It is common practice with many beekeepers to requeen every year toward the end of the honeyflow. With a young queen present there is much less danger of finding a weak or failing colony next spring.

The old bees which have gathered the harvest will disappear rapidly with the coming of cold weather and it is the young bees which will carry over to start the season's activity next spring.

A good supply of honey is essential to carry the bees through and enable them to build up a sufficient working force to start the next year's work. Whereas in the old days it was thought that twenty to thirty pounds were sufficient for wintering, it is now known that at least fifty pounds should be left on the hive to insure the bees against a backward spring which may be ahead. Honey left on the hive is like a bank account on which to draw in emergency. The bees may not use it all but it won't be wasted and may save the colony in case of need.

—ABJ—

## A Book on Honey

At last we are to have a book on honey written by one who is in position to speak with authority. The manuscript is in preparation by Dr. Bodog F. Beck, author of "Bee Venom Therapy."

Dr. Beck says: "The culpable disregard of honey is a grave and lamentable error of the present generation and a sad reflection on its intelligence." The book will be an exhaustive treatise on the use of honey throughout recorded history, its place in the diet, its medicinal value and its value in numerous other ways.

We may look forward with confidence to an increased demand for honey when the book appears. At present there is little information available to the general public as to the merits of the product and it has very largely been displaced by refined sugars. Once the public is convinced of its value there is every reason to expect a substantial increase in its use with a corresponding expansion in production.

There has long been an urgent need for such a book as Dr. Beck has in mind to answer the numerous questions that constantly arise concerning honey.



Mr. and Mrs. Tom Burleson.

**H**ERE are pictures of two couples who bore the brunt of the negotiations that succeeded in the passage of the first ordinance in the (See right column next page, please!)



Mr. and Mrs. Eugene Phelps.

## Beekkeeping in the Willamette Valley

By Joe Marty,  
Oregon.

**M**ARION County, Oregon, is a narrow strip of territory stretching from the Willamette River on the west to the summit of the Cascades on the east, varying in elevation from a couple of hundred feet to five thousand feet, the precipitation varying with the elevation. Near Salem, the county seat, it is about the same as at Chicago, but it increases several times as you near the eastern summit. Most of this comes in the form of rain, though snowfall in the mountains is heavy. From May till October there is little rainfall.

Being close to the coast and subject to the warm Japanese current, there are not the extremes of heat and cold. Our summers are cool and our winters mild, the thermometer seldom registering above ninety or below zero. Yet it is not warm. Our cherry trees which often blossom in early March do not ripen until late June or early July.

So equitable is the climate that I have seen frost on the ground two weeks without melting, in the cloudy wintry months, and yet the ground not frozen. Soft wet snow will sometimes lie on the firs for a week or so before melting off.

The most disagreeable weather comes with the wintry storms from the southwest, the wind being forced up the Cascade slopes causing heavy precipitation in the valley and heavier on the slopes, oftentimes as snow.

As spring approaches, the heavy dank fogs of the valley disappear and it begins to warm up, while on the slopes winter lingers, March and April sometimes being the most disagreeable months of the year.

I have perhaps overstressed the weather but any wise person is aware that if he knows the climate fully he knows what will grow and will be able to adapt himself to his environment.

Marion county is one of the greatest fruit counties in the United States. Strawberries, cherries, pears, prunes, blackberries, and loganberries grow to perfection. All the clovers do well except sweet clover and alfalfa. There are the vine maple, wild cherry, dandelion, wild pea, wild vetch, wild blackberry and numerous other wild flowers for early spring, and the fireweed from July till September.

One cannot always rely on any one plant for a sure honeyflow. The most

dependable nectar plants in the valley are the clovers, the wild evergreen blackberry, and the loganberry. Any beekeeper with a location near a large orchard and these plants and who has a good fireweed location in the mountains to move his bees to later, can make the bee business a paying one here.

Spring management here does not mean simply the prevention of swarming and putting on supers as they are needed. It means feeding sometimes to prevent starvation when colonies have built up strong and two or three weeks of continuous cold rain set in. Most of my colonies were strong with ten frames of brood. I had watched them carefully. One must often use stimulative feeding for a honeyflow if the weather is cold and rainy previously, as it often is in the Willamette Valley. The colder and wetter the spring the greater the abundance of nectar so it behooves the beekeeper to take care of his bees.

Wintering is out-of-doors in single hive bodies, very satisfactory if the colonies are strong and located where it is dry and out of the wind. However, I pack all of mine. I had a bitter experience a few years ago when they were not packed. I lost two-thirds of my colonies and those that survived dwindled so badly that my crop was small. The sad thing was that there was a splendid honeyflow that year and honey at a good price.

Now my apiary is enclosed by a ten-foot board fence and my colonies all packed in lumber packing cases, with sawdust, and left until they are ready for supers or to be moved. Often weak colonies remain in the packing cases until almost the first of June.

Foulbrood is rampant. There are more beekeepers with it than without. Every orchardist wants bees for pollinization but does not look after them. Before placing my bees in a location I make a house to house canvass to find if there are other bees so that I get a personal inspection of every colony. By taking someone else's word a few years ago I got a nice dose of foulbrood and had a pleasant time ridding my apiary of it.

We have a County Unit System of inspection where each county appoints its own inspector to be paid from a tax of \$1.00 per year per apiary. This tax is not collected. If it were the amount would be so small the inspector would not be able to buy gasoline.

The county is probably overpastur-

ed. There are many wild bees. Our county judge, whose avocation is hunting bee trees, has found as many as ten in a half day, although he has never yet found a wild colony with disease.

Marketing honey is quite a problem. The successful beekeeper who readily sells his honey does his best to explain everything about it to his patrons. This is especially essential here as much of the honey from the smaller beekeepers is put on the

market in any way and they do not seem to be particular in segregating the valley honey, gathered in July and August, from the rest.

In these two months in the Willamette lowlands there is an abundance of honey gathered from the bachelor button and dog fennel, a small yellow flower growing in damp places. This makes disagreeable honey. The public think all honey is alike and once having been sickened on this stuff they are off honey forever.

—ABJ—

## Apiarist Conducts W.P.A. Classes for Pennsylvanians

By Works Progress Administration,  
Washington, D. C.

Here's a good WPA story from Pennsylvania.

When William E. Davis lost his job and his home two years ago, he had a wife, nine children and 250,000 bees to worry about. But that very handicap became an advantage and as a result he is now the official "B-Man" of the Works Progress Administration in Norristown. He not only still has the 250,000 honeybees, but 200,000 more, which he carts all over the country in an old truck.

Davis teaches bee culture to sixteen Montgomery county farm groups, school clubs, fruit growers associations (bees are good for orchard pollination), a bee club at the Eastern Penitentiary at Graterford and to anyone else who will listen. "Everything about the bee," Davis says, "is useful, except its buzz."

About a year ago the Education and Recreation Division of the WPA took Davis from the relief rolls and started paying him for demonstrating bee culture. Davis now hopes to establish a beekeeping school for physically handicapped persons, and a bee venom clinic for neuralgia, arthritis and rheumatic fever sufferers.

"Bee stings are beneficial in the treatment of those and many other diseases," he says. "You take a bee," he explained, "place it on the affected part of the body and then infuriate it by pinching. A 'sit-down' invariably results—and when the bee gets up, he leaves a stinger behind." Five to thirty such treatments, Davis said, should effect a cure. "The idea is not new," the WPA B-man said, "for Dr. Bodog F. Beck conducted such a clinic on Long Island for many years. Many large pharmaceutical laboratories also make serum out of bee venom, but it's not as effective as

when applied from the original source." Davis cites his own experience. When he took up bee culture and go stung regularly, his rheumatism disappeared, he says.

Davis' bees are a gentle Italian hybrid, a cross between Cyprian and Italian bees, neither of which is particularly gentle. He said they were developed by Henry Brown, of Cape May, after fifteen years of intensive cross-breeding.

"My bees," said Davis, casually gathering 2000 of them in a straw hat and putting the hat on his unprotected head, "have the equipment to sting just as badly as do the German black bees, or any other wild breed, but they just don't do it unless you hurt them. They're naturally friendly and gentle."

And to prove it further, he called two of his children, Eileen, 6, and Earl, 4, and sat them down beside a hive about which 10,000 bees were buzzing. The children, unafraid, remained there while bees crawled about their faces and hands and settled in swarms on their heads. They were unharmed. One can't be too sure about bees, though, for, according to Davis, a hive of gentle ones may become ferocious almost overnight. It all depends on the queen, he explained. If, on her once-in-a-life-time love flight, she mates with a gentle bee, all well and good. But if her boy friend happens to be one of the wild variety, all her eggs will hatch wild bees.

Needless to say, the Davis family uses no sugar. They use honey instead and say it's far superior. They even make vinegar out of it, and Davis recently discovered that it also makes a palatable and potent alcoholic beverage. "You mix two parts of water with one part of honey," the B-man said, "and let it set and ferment. It makes a real drink!"

United States against the use of the airplane in the broadcasting of poisons in areas where the drifting poisons will cause harm to the property and interests of others.

In addition to Mr. and Mrs. Phelps and Mr. and Mrs. Burleson, George Triphon, of Sacramento, past president of the state association; Cary Hartman, secretary-treasurer of the state association; and LeRoy Goodrich, attorney; rendered invaluable service in obtaining the passage of this ordinance.

—ABJ—

### Getting Together



That's the method they used in California against poison dust and thanks be to them. Griz tells the whole story; get together and lick our common troubles. And getting together often means rubbing elbows with some other group with the same nut to crack that we have. When the fruit men and the beekeepers saw how much each needed the other, bees and fruit both took on a new light.

—ABJ—

### Honest Old John

Old John Hasher was talking about old times. "Them was the days when you could really get a crop of honey," he said. "One year I had some bees back on the mountain. They begun to work along in April, and I begun to put on supers. We kept it up, the bees and me, all through May, June, and nigh onto the end of July. One hive that year made 999 sections of honey, every one of 'em perfect!"

"Why don't you make it a thousand?" asked one of the listeners.

"What!" cried Old John. "You think I'd tell a lie for just one pound of honey!"

W. H. Hull,  
Virginia.



## Saving Bee Tree Bees

There is always some fascination in trying something new just to see if it can be done. On December 24, 1935, my neighbor cut a bee tree. I offered to help him for the bees, he, of course, to get the honey. To winter the bees I put them on full combs of honey in a hive which I placed in my cellar, having first revived the chilled queen in my hand. The bottom of the hive was closed with an inner cover and the top covered with a moving screen on which was laid two folded burlap sacks.

The bees wintered perfectly. On February 24 they were set out for a good flight, then returned to the cellar until March 23. When I got the bees they weighed about two pounds net. The dead bees in the inner cover on March 23 filled a cup and weighed two ounces. I was very much interested in the crop they would store, but on the night of March 24 somebody stole the colony complete. But I had the satisfaction of saving and wintering the bees. It could be done.

Ivan Whiting,  
Illinois.

—ABJ—

## Beans More Dear Than Honey

The Billings Gazette, of February 3, comments on honey: "The dish of queens is selling for less than the lowly bean. Twenty thousand acres of seed beans grown in the Basin section last year totaled approximately 30,000,000 pounds. During the same period a million to a million and a half pounds of honey were produced in the Big Horn basin. The apiarists are not begrudging the bean growers their good fortune in receiving prices approaching those of wartime, but they are puzzled over the vagaries of economic conditions which make beans more dear than honey. The bulk of the crop marketed in Iowa brought much less than the beans. As for beans—337 railroad cars were necessary to move the crop to market."

This clipping was sent in by Glen C. Templeman of Wyoming.

—ABJ—

## Robber Bees

The Devell finds work for idle hands,  
in truth,  
He himself could devise no greater  
scandall  
Than erstwhile busie bees, taking on,  
forsooth,  
The guise of thieves; their virtues  
all a-dandle,  
Become the insect counterparts, uncouth,  
Of human picklockes, licking the  
Devell's sandall.

—Walter H. Hull.



# Iowa Auxiliary News Notes

By Elsie B. Polhemus,

Iowa.

THE American Honey Institute aroused in an already interested group of women a desire for organization. Many women were connected with beekeeping and were attending our state beekeepers' convention here at Ames. We came to a final decision after hearing Mrs. Jensen give one of her enthusiastic talks and demonstrations.

Last year we held our first meeting, organized and elected officers at a tea held at the F. B. Paddock home. Recipes of the honey cookery products displayed at the Iowa State Fair were to be distributed among the members of the Auxiliary and that lead to the thought of filing cabinets for honey recipes only. These cabinets and the recipes were distributed at this organization tea.

We were very fortunate in having Miss Cranston from the American Honey Institute as our guest speaker. At the tea our women discussed their successes and failures in the uses of honey very freely with Miss Cranston and received much valuable information.

One of the programs of the Auxiliary is the distribution of newly tested honey recipes received from its members. During the past year several of these releases have been made. The American Honey Institute is always anxious to receive these new recipes and it in turn passes on new recipes to us. You would be surprised if you could see how my file has grown in the past year.

The National Honey Cookery Contest brings to light many new discoveries. Are you going to Washington, D. C., for the International Beekeepers' Congress, October 25, 26, 27? If you cannot go send your en-

tries to the Fourth National Honey Cookery Contest being conducted by the Institute. Last year all three classes intrigued me, especially the all-honey candy. Have you ever tried to find an all-honey candy recipe? I have had no home economics training except in my own kitchen and a cook book has always been my right-hand man but I began experimenting and finally produced a caramel that was sent to San Antonio, and to my surprise and delight I placed. I never before experienced such a thrill. Do try—send to the American Honey Institute, Madison, Wisconsin, for premium list and entry blanks, and any additional information.

At our convention the members heard in person the women who discuss honey cookery over radio station WOI on the Homemakers' Hour. Several of the home economics professors at the Iowa State College have done outstanding work in experimental honey cookery.

As we develop we see a future for County Units. One young woman in northeastern Iowa has been giving honey demonstrations during the past year.

Honey has found a commercial outlet in Iowa through several channels. One baking firm in Des Moines makes a honey graham cracker using several thousand pounds of honey per month. Here at Ames the Iowa State College Dairy Department has a patent on a plastic milk and honey confection. Honey cookies and breads are made in several bakeries.

Free information on any phase of honey cookery may be obtained by writing the Honey Institute. It is available to commercial users as well as individuals.

Last year there seemed to be a revival of interest in the Honey Culinary Department at the Iowa (Please turn to page 452)

# From the Cook's Nook

By Mrs. Benj. Nielsen,  
Nebraska.

## Honey Cheese Muffins.

**C**OLD snappy days seem to call for fluffy, golden-brown muffins with our oven dinners. Whether you choose the plain or cheese muffins you can be sure they will be hailed with delight by family or guests if you serve them piping hot with plenty of butter and honey.

### Plain Muffins.

- 2 cups white flour
- 2 tablespoons honey
- 4 teaspoons baking powder
- 1½ teaspoons salt
- 1 egg
- 1 cup milk
- 3 tablespoons butter

Mix and sift flour, baking powder and salt. Add honey to beaten egg, combine and mix only enough to blend. Add melted butter. Bake in greased muffin pans in a hot oven, 400 degrees, 20 to 25 minutes.

### Cheese Muffins.

- 1 egg
- ¼ cup honey
- 2 cups flour
- 1 cup sweet milk
- 2 teaspoons baking powder
- ¼ teaspoon soda
- 1 teaspoon ginger
- ¼ cup grated cheese

Beat egg very light, add honey and milk. Combine and sift dry ingredients together. Stir into egg mixture and add grated cheese, mixing only enough to combine. Bake in greased muffin tins, at 400 degrees, for 20 minutes.

Perhaps the family has grown tired of apples cooked and served in the usual way, or company has dropped in and you wish to dress up the plain fare, then try apples this honey way.

## Honey-way Apples.

- 4 apples
- ½ cup boiling water

Wipe apples, remove cores and a portion of the skin. Place in a saucepan, peeled side down. Add water, cover and steam until tender. Remove cover and drizzle honey over the hot apples. Then beat one-half cup cream until stiff and beat in gradually one to two tablespoons of honey, one-fourth cup chopped walnuts or other

nut meats and a few grains of salt. Transfer apples to a platter or individual dishes and fill the center with the cream mixture.

## Honey Apple Rings.

Core and slice in one-half inch rings four red apples. Cook four to six rings at a time in a syrup made of one cup water, one-half cup honey and two dozen red cinnamon candies. Cook until transparent. Remove rings to dishes and pour the remainder of the syrup over the rings. This will form a delicious jelly-like coating. If desired as a dessert serve with plain cream or honey sweetened whipped cream. To make a delightful salad, place on lettuce and top with the following dressing: one-half cup cream whipped, three tablespoons salad dressing, one-fourth cup chopped dates and one-third cup nut meats.

Did you know that a delightfully wholesome breakfast food may be made using honey? The real test of its delicious and nutty flavor is in the eating, so do try this inexpensive cereal high in food value.

## Honey Nutlets.

- 1½ cups rye flour
- 1½ cups whole wheat flour
- 1 teaspoon soda
- 1 teaspoon salt
- 1 cup honey

Combine dry ingredients and honey. Add enough buttermilk to make a medium batter. Bake in moderate oven. Let cool and run through the food grinder. Spread out on trays or pans and dry in a slow oven. This will be very hard and a deep brown.

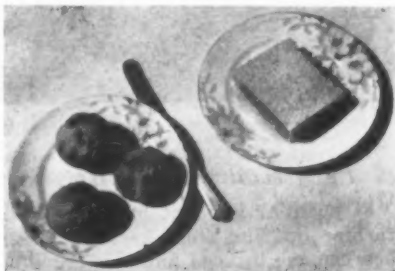
—ABJ—

## Snow Candy

- 2 cups crystallized honey
- 2 cups grated cocoanut
- ¼ pound almonds
- 1 teaspoon vanilla

Knead the cocoanut into the honey until it can be handled without being sticky. Then roll into balls about the size of a walnut, with an almond in the center. Roll each ball into more cocoanut—then place one almond on top. Place in refrigerator before using.

Helen Davidson,  
California.



Honey cheese muffins and the honey to go with them.

## Unique Mode of Retailing Honey in Milk Bottles, Plus Clever Display, Push Sales for Denver Store

By John Regan,  
Colorado.

Retailing honey in half-pint milk bottles accomplishes several purposes at the Ever-Ready Creamery, 136 E. 20th Ave., Denver.

For one thing the customers keep coming back. The deposit of five cents charged on the bottle, just as is done by stores in sales of milk, brings them back to return the bottle. Many customers make additional purchases of honey on returning.

Again, since the bottle ultimately costs the customer nothing, the charge on the honey is reducible. The creamery profitably sells the half-pint (12 ounces) for ten cents. Finally, the unit quantity of honey is convenient. Most customers desire about 12 ounces.

"This is by far the best method of retailing we have ever used," states Jack Pitter, manager of the creamery. "With buckets, the customer has to buy more than he wants. With jars, he has to pay for the jar, shooting up the price. Half-pint milk bottles avoid both difficulties. Our turnover is at the rate of a gross a week."

Some customers kick a little at the request for the down-payment. Mr. Pitter then kids them. "If we charged a penny you wouldn't bother to bring the bottle back," he tells them, "but when we charge a nickel down-payment, we know you'll come back."

A local bottle company specially prepares the milk bottles for Mr. Pitter. It prints on each bottle in red letters, "Mountain Kist Pure Honey," on one side, and "Use Mountain Kist Pure Honey," on the other.

"The customers return practically all the bottles clean," states Mr. Pitter. "I tell the customers they can get the honey from the bottles by dipping the bottles in warm water. In order to remove the honey for their own use, they necessarily clean the bottles."

A local honey producer fills the bottles and delivers them to the creamery ready for sale.

A unique window display advertises the honey. It is modeled after an old-fashioned straw skep hive. A circle of honey bottles, 30 inches in diameter, forms the foundation. On top of these bottles is placed a circle of cardboard, or, preferably, a circle of wood, to support the next circle of bottles, which must be smaller in diameter than the first. The display is built on up. Mr. Pitter's display is four layers high, as high as he could go since he used cardboard, which tends to break under the weight. In the center of this honey-bottle-hive (Just turn the page, please!)

he placed a light with a contraption around it which rotates, due to the heat, throwing waves of light against the honey bottles.

"Everybody stops and looks at that window," states Mr. Pitter. "They stop not only the first time they go past, but they keep on stopping. We leave the light on all night, and I can tell you it certainly looks attractive in the dark."

—ABJ—

### *An Ancient Ruse*

If you have ever seen the frenzied capers indulged in by a horse when he becomes involved with a hive of bees you can imagine how the troopers of Giselbert, ancient king of Lorraine, felt one day. They had their enemy besieged and thought that now he could be overcome. But during the interval the enemy had collected a large number of hives of bees. When Giselbert's troopers charged these hives were thrown down onto them. The bees attacked the horses and many of the riders were thrown. Even those who succeeded in keeping the saddle could not control their mounts, and the attack was broken up.

W. H. Hull,  
Virginia.

—ABJ—

### *A Land of Milk and Honey*

Often referred to, in Biblical days, as the "Land of Milk and Honey," Palestine again is approaching rapidly that point. The population, which has increased by leaps and bounds since the end of the World War, is now fully supported by the land. In addition, there are exportable surpluses of most agricultural products grown there.

Milk production is increasing steadily. The annual production of honey now is in excess of one million pounds and with the startling growth of citrus plantations is expected to rise quickly to over six million pounds. There are just one hundred families now earning a living from the keeping of bees and it is estimated that there is room for nine hundred more.

Palestine's area is about 500 square miles less than the combined area of Massachusetts and Rhode Island yet the Near East country's production of honey is twice that of these states. Again, Florida is a great citrus growing state with an area six and one-half times that of Palestine, but whose production in 1935 barely equalled that of the land of milk and honey. Evidently we in America need not only more beekeepers, but bigger and better beekeepers so as to conserve our carloads of constantly wasting nectar.

James T. MacMillan,  
New York.

## One Horse and a Million Bees



SIZE often is of no account. In this case the horse found that out. Hoyt Taylor, again with his ready Voigtlander, got to the spot in time to record the whole story. They were his bees but a neighbor's horse, allowed to wander too much as he pleased. No blame on Hoyt but the horse ventured too far down the bee rows and became panicky with the first stings. Running wild, he became fenced off and down he went, the victim of a "million" bees.

Stock often are a problem to the beekeeper. A good fence pays well, whether it be provided by the stock owner who has the bad habit of allowing loose animals to graze at will; or by the beekeeper for his own protection. We have had hogs upset hives in a whole yard in late winter, causing bees to fly out in defense and perish from the cold. Early spring found the colonies weak and poor. A fence would have prevented the damage.



—ABJ—

### *A Peculiar Incident*

A peculiar incident happened to a farmer not far from here. A queen bee became injured and was crawling

on the ground followed by many workers. Baby chicks swallowed the bees and they died of stings. The farmer was too late to save them.

Mrs. Anna Sandman.



# A Big Yard for Comb Honey



THIS picture, from B. I. Evans, of Minnesota, is of a single yard, run for comb honey exclusively, containing 375 colonies, somewhat of a record for a comb honey yard. The crop in 1936, averaged five supers to the colony. A prettier layout is seldom seen.

—ABJ—

## A Manitoba Scene



J. C. RIPPINGALE, Oak Bank, Manitoba, sends this picture. Looks as though it were taken in spring, introducing packages. Sorry no description came with the photograph. We like it

better with a generous explanation. Anyway, so bee yards may look among our northern brothers. Rippingale is well known in the States. We met him at Valdosta.

—ABJ—

### The Cold Garret

The second story has always been a problem to me. I could never quite reconcile myself to the idea of the cold second hive body in the spring

time and I never once thought of using a newspaper with it until I read about it in the bee papers. I started using the newspaper and behold! It was an improvement.

J. H. Sturdevant.

### The Queen Excluder

By Frank C. Pellett.

THE queen excluder as we know it appears to have been a very gradual development and not the invention of any one individual. It was first used in Europe and such contributions as Americans have made to it have to do with its manufacture and improvement rather than with the origination of the article itself.

The first equipment pointing in that direction appears to have been an adapting board used in connection with the straw skep. Where the crowns were not level it was found advisable to interpose a thin board on which to rest the surplus chamber, the forerunner of the super. Originally these adapting boards were made with round holes in the centers to match the holes left in the crowns of the skep. In order to prevent the entry of queens and drones into the surplus chamber a "queen grating" was devised. These narrow slots in the wood permitted the worker bees to pass while turning back the queens. Improvements naturally followed until the adapting board became an excluder.

In 1865, Abbe Collin, of France, published a book on bees in which he described a similar device made of metal. Whether he was the first to use metal for this purpose is not entirely clear, but at least he appears to have used the oblong perforations such as later became so common. The first metal excluders made in England were made with round holes just large enough to permit the passage of the worker bees. In crawling through the round holes they dislodged the balls of pollen which they carried and thus prevented pollen storage in the surplus chamber as well as preventing the queen from laying in that compartment.

Considerable experiment was necessary to arrive at the right size for the openings. The size of the round openings as used in England is recorded as three-sixteenths of an inch in diameter. Sometimes a queen would be able to pass through and establish herself in the forbidden chamber. Abbe Collin's elongated opening proved more practical since the worker could pass through a narrower opening of this shape than would permit her to pass in a round hole.

About that time C. N. Abbot, who was editor of the British Bee Journal, devised an excluder with strips of glass but it proved of only passing interest.

The first excluders to be used in this country were imported from England. The perforations were nine-fiftieths of an inch in width. Once acquainted with the new product (Just turn the page, please!)

Yankee ingenuity looked for possible improvements. Dozens of queen and drone traps, entrance guards, swarm catchers and similar articles were made. For many years the supply catalogs devoted much space to such articles until the beekeepers became too wise to waste their money on useless trinkets. The queen and drone trap which remained long in use was known as the Alley trap and originated with Henry Alley, of Massachusetts.

Dr. G. L. Tinker, of Ohio, hit on the idea of using strips of zinc supported by strips of wood. The wood was designed to rest above the frames with the perforated zinc running above the openings between the frames to permit the bees to move upward readily.

In October, 1907, the A. I. Root Company was granted a patent on a new type of excluder made of hard drawn No. 14 wire held in place by soft metal ties every two or three inches. Thus a wire excluder offered a competitor for the zinc excluder so long in use. Since that time numerous changes and variations have appeared until the wire excluder is now sold in much larger volume than the older form.

—ABJ—

## New Frontiers at Twenty

THIS snapshot of myself was taken last summer. I had to go to the top of a 30 foot tree to get this swarm. I have only 25 colonies, although I have handled bees for 7 years. I am 20 years old. Whether to make beekeeping a business or a hobby is a question I have not been able to answer.

Ray Snyder,  
Nebraska.



# Are Garden Flowers Any Benefit to Bees?

By Grant D. Morse,  
New York.

A SUCCESSFUL honey producer said to me a few days ago, "My bees are working on raspberry blossoms." I knew, as a matter of observation, that his bees had stopped working on raspberry a week previous.

A successful farmer said to me recently, "Blank's bees must have made tons of honey off my clovers, and he has never done a thing for me, not even acted grateful."

A woman here in town, a successful gardener, said to me some time ago, "I'll bet your bees are getting plenty of honey from my flower bed."

I'm not pretending to any great fund of superior knowledge when I say respectfully that these folks (and their number is legion) don't have much idea where bees get honey, or when they work on different blooms, or why nature gets them to do this work.

Suppose we turn our thoughts for a moment to the beekeeper who said his bees were getting nectar from raspberries. He is a man of maturity, a very successful apiarist, but he doesn't take time to find out, or else isn't especially interested in what blooms the bees are working on at any given time.

Maybe, if I were a producer of honey in large quantities, and had more than I could do to keep those bees at the peak of production, I wouldn't have time to notice what blooms my workers were visiting. But, personally, I like to know whether my bees are getting their supplies from raspberry or clover, from alsike, or sweet clover, from sweet clover or sumac, from goldenrod or aster, and so on. It requires only a little observation to determine the source of a nectar supply. It seems to me a person gets just a little more fun out of the business and a greater measure of appreciation for the variety of blooms if he knows which ones are yielding.

### Bees Serve the Farmer, Too.

Now how about the farmer who said Mr. Blank's bees had gotten tons of honey from his clovers, and Mr. Blank had shown no appreciation. I think this attitude is too prevalent.

Too many farmers don't know that insects are a necessary factor in the process of pollination. Very often the insects, other than our honeybees, are

not numerous enough to do the job. In the Atlantic Monthly \$5,000 prize novel for 1935, "Old Jules," by Marie Sandos, the author tells of clouds of butterflies visiting her father's apple orchards in Nebraska while they were in bloom. She mentions these butterflies in connection with their beauty, but I assume she realized their practical benefit, also. Apple orchard growers today recognize the need for pollination by bees and customarily pay for such service. I know, though, of orchardists who are fortunate in getting this service free because an apiarist lives close by. In such cases there is mutual advantage. Too often neither party takes the trouble, or is willing to condescend, to acknowledge benefit. Perhaps it isn't too philosophical to mention that such an acknowledgment would lead to better understanding and closer neighborliness.

My neighbor's remark that my bees must be getting plenty of honey from her flower beds is somewhat typical of many gardeners. Too often they fear the bees just enough to create dislike for the pollen gatherer. To the best of my knowledge, not many garden varieties yield much nectar.

This brings to my mind a bloom that my grandmother and some of her neighbors cherished when I was but a lad—"summer savory," or "wild thyme." From those tiny garden plots it spread to the pastures on the hillsides of the Catskills in New York state and now it yields such a generous flow that bees will occasionally build combs outside of the hives in order to store it. Then, it was a cherished garden flower; now it is a curse to the farmer whose grass it crowds out, but a blessing to the beekeeper.

Some garden flowers, such as hollyhocks, yield quite a bit of pollen, but there are not enough of them to make them very valuable for the bees.

On July 4, this year, I took a stroll on the knoll back of my apiary and in passing noticed the blooms on which bees were working. For every one that was visiting a garden flower, there were countless thousands dropping down on sumac (the short variety). But despite the popularity of sumac, other thousands were visiting basswood, white sweet clover, yellow sweet clover, milkweed, and a few were giving their attention to a blue flowered weed that looks something like blue bells but is not. I noticed one egocentric yellow Italian visiting an early variety of wild aster. There was a plot of this in a clearing

some two hundred feet square and just one bee was working on it!

How wise nature is. You and I have both heard it remarked that it's lucky we mortals don't all have the same taste. (Or else, I suppose the assumption is, most of us would be spinsters or bachelors; and then where would the next generation come from?) So, too, with bees. Evidently, their pref-

erences and tastes are as varied and as unaccountable as ours: one will visit all day long nothing but yellow clover, another nothing but white, still another will court none other than sumac, and wonder of wonders, others will contemporarily visit wild aster, or cultivated hollyhocks and give no heed to the beautiful primrose that blooms close by!

—ABJ—

## Burr-Combs

By Alfred H. Pering,

Florida.

Burr-combs may be a source of "raw material" from which the beekeeper may secure some good beeswax, if they are removed from brood-combs and extracting frames at such times as hives and frames are being manipulated. The amount of wax that can be secured by saving these burrs and other scraps of wax, is often considerable; more so than the ordinary beeman would expect, unless he has tried saving them.

Burr-combs are very often a source of annoyance as well as a source of some profit to the beekeeper, if they are saved and melted up. I hardly know of any one other thing that is more annoying in handling bees than these old tough burrs, so often found between the top bars of brood frames, especially if the bees happen to be ill-tempered and the burrs are old, tough and plentiful. These burrs, when broken apart as frames are removed, are often found to have a few shallow cells containing just a little honey, which the bees immediately begin to try to salvage, and as the operator replaces the frames the broken burrs do not join up properly unless the frames are replaced in the exact order as they were found. Then too, the bees will hang on to the broken cell of honey and refuse to leave even when a generous smoking is administered to them, and as a result some bees are mashed as the returning frame is shoved up and into place. Any experienced beekeeper knows what it means when a bee is thus killed. A sour odor is sent off that immediately has the effect of further arousing the ill-temper of the bees, and the operator must "watch his step" or lose control, and take the consequence in stings.

"Necessity is said to be the mother of invention." So the necessity of finding some effective and rapid way to remove these "pesky" burrs caused the writer to give considerable thought to the problem of devising some sort of a simple implement that would do satisfactory work, and after

a bit of experimenting and the aid of our local, skilful mechanic, such an implement was devised. It operates on a lever principle, is effective and easy to manipulate. The resulting gain from wax rendered has been beyond the writer's expectation.

I wonder if other beekeepers have noticed that burrs are more numerous some years than others. Why is it? The reason, I do not know. My observation is, that when the honeyflow is light and when the hive is already full of comb, whether the combs be either full or empty, and brood rearing is in sufficient full swing to take up all the honey as it comes into the hive, then the building of burrs is more noticeable. When combs are being built or honey is being sealed, the wax that is secreted finds its place in new comb or cappings. While, on the other hand, when brood rearing is being carried on and there is no demand for new wax for new combs or cappings, the burrs are built of the wax that is simultaneously secreted by the nurse bees as they produce larval food. Is that right? That is my guess.

When nurse bees are producing food for the youngsters, can they produce food only at that time? When bees are secreting wax can they produce wax only at that time? It appears to me that wax and food are produced at one and the same time by the same individual bee; hence when the honeyflow is light enough to be consumed as fast as the honey comes in, there is no demand for wax for combs or cappings, and the surplus wax is deposited anywhere and everywhere, and burrs a plenty result.

We are having a light flow right now. This is during the latter part of July and I was just talking to a young neighbor beekeeper who has a small apiary of his own and cares for quite a few colonies for a grove owner who maintains sufficient colonies of bees to fertilize his orange bloom. In response to my inquiries as to his honey crop, he said, "No honey, but the hives are full of burrs. Beeswax is my crop just now." So what?

## Ventilated Modifieds

HERE is a picture of a pair of Modified hives as they looked in my home yard in the summer of 1936. My young helper is Glenn Arthur Robins, four years old, with his "bittie" smoker and veil. He got his first sting when only one year old and has always come back for more.

I hesitated to use the large hive because it is necessary for me to pick up every hive I have and carry them to the truck to load to take to the river bottom for fall. However, in buying out a beekeeper, I got five Modified hives that were in good condition. So, I gave them a trial.

I put bees in two of the hives in 1935. Then in 1936 I divided one of the two into three, putting them in new locations. At the end of the season I had between 300 and 400 pounds of surplus honey from the two parent colonies and an increase of three. And in the spring of 1937 I have found that they all came through the winter in good shape. This is better than my average of 110 pounds and an increase of 33 per cent from 150 colony spring count in 1936. Two colonies drew six sets of foundation, so my trial has been quite satisfactory.

Leonard J. Robins,  
Illinois.

[Note how Mr. Robins has the hives ventilated with corner blocks to hold them up in front and the inner and top covers drawn back at the rear of each hive.—Ed.]





## Old John Tells of a Honeyflow

"Speakin' of honeyflows," said Old John Hasher, "one year we got kind of a big flow from poplar. I had a yard back in the woods that year, an' 'stead of bringin' the supers in I took my tank, an' extractor, and a load of cans out there, intendin' to extract at night. There was a big poplar tree in the corner of the yard, so we set up our rig under it and took off as many supers as we reckoned we could handle. It had been quiet all day, but just about dark a breeze come up, an' we never got a lick of work done all night."

"Why not?" I asked. "What hurt would a little breeze do?"

"Well, no real hurt, you might say. It just upset the blossoms on that tree and filled our tank plumb full before we could get started to extractin'."

"Why didn't you draw it out into your cans?"

"We started to, but found we'd made one mistake. We'd left the caps off those cans, and they was full, too!"

W. H. Hull,  
Virginia.

—ABJ—

## Words of Wisdom

The following is from Dr. Alfred McCann's book "Science of Eating." He says, "The bee is destined to benefit generations still unborn but, before the bee can do its best, humanity must first learn to consume honey."

To be sure, Honey is not sufficiently known or three times the amount which we now produce annually would not be enough to meet the demand. Dr. McCann condemns the excessive use of sugar and says it is the cause of the increase in diabetes, urging the use of honey as a preventive measure against this dreaded disease.

Bro. Alphonse Veith, O.S.B.,  
Indiana.

—ABJ—

## Early American Bees

Whether our honeybee, *Apis mellifica*, was a native of America or not has been an open question. Honey and wax were unknown in the North before the white man's coming, but were found by the earliest explorers in Mexico and what are now the states of Florida and Georgia. In fact, a part of the tribute exacted by the explorers from conquered tribes consisted of honey. Purchas, however, tells of quantities of honey made in the West Indies by small stingless bees. Quite possibly they existed also on the mainland and ranged as far north as Florida and Georgia.

W. H. Hull,  
Virginia.

# This Lady Knows Her Bees

By H. A. Insinger,  
Missouri.

**B**EESKEEPERETTE or beekeeper, no matter. The noteworthy fact remains that there is known at least one member of the "gentler sex" who takes pleasure in working with bees. To find bee-minded women has its difficulties. Unquestionably they come few and far between, and only by sheer luck a snooper finally ferrets out the unpretentious home of a charming Bienenmutter.

This career was not entered upon deliberately by Miss Minnie Arnold, of St. Peters, Missouri. One might say it was forced upon her. When the



Miss Minnie Arnold, togged out against her winged warriors.

legacy, comprising a dozen and some stands, came to her from a brother two decades ago, it meant either to sell them at a give-away price, or to learn the management of bees and have them help produce a profit for the farm. Naturally she had a measure of bee lore through the association with her brother who had cared for them previously. But to assume sudden management with only slightly more knowledge of the business than is possessed by the average person outside the beekeeping fraternity, was something to be thoroughly considered.

No fooling about it, this lady knows her bees. And if twenty years may be called a long time, then she certainly ranks among those who are

"old hands" at the business. Experience has been her best teacher. And her initial assumption, that there was a lot to be learned in the business, she had found to be quite correct. She went to school with fellow beekeepers, books, and magazines. Later on when the local association had its annual get-together she was present for business and pleasure. While she is the only lady "beeman" present at these picnics, don't get the idea that she is the only lady that's there. Show us a cook that will prepare all sorts of pies, cakes, and other goodies to eat and then decide to stay home from a picnic.

Annual losses and gains fluctuated, and so today the active lady takes care of 23 stands. Age appears to be no handicap for this beemother—she is well in the fifties—and the usual run of bee yard work receives her personal attention and execution. Only then, when heavy work comes along, work requiring physical strength, it is that help is sought from a beekeeper that's a member of the stronger sex. So, after all, men do come in handy.

Strictly speaking, the bees are not a business proposition with Miss Arnold. If she meant to be in the commercial end of it the yard would have been extended long ago. Of course, she takes off honey, but not the quantity she safely might remove. Miss Arnold believes in allowing a plentitude for winter stores. About the most she ever harvests from her colonies is in the neighborhood of 1500 pounds. "That's enough to supply my trade and give us all the honey we want to eat," she says.

If a favorable season comes along the white clover yield is something to be watched. She had the vision to prepare for such yields the same year the legacy came into her hands. Immediately she sowed a considerable pasture acreage and surrounding otherwise useless stretches to white clover. Aware of the goodness of white clover honey she was going to make sure and do all in her power to assure a crop. Of course, there have been dry springs as well as too wet springs and consequently no clover yield. But, all in all, she assures, her sowing of that clover paid big dividends. Other important nectar sources for her bee yard are smart weed and Spanish needle.

"Yes," Miss Arnold smiles, "I am kept plenty busy with my bees, chickens, cows, pigs, and the general supervision of my farm. Yet, all things considered, I find the bees bring me the best returns on the investment of my time and whatever occasional expenses come along."

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Plant and bloom (circle) of the saw palmetto.

## Palmetto in Florida

HERE are two pictures of saw palmetto, one of the main sources of honey in Florida, blooming from early May to late June. It produces a fine honey of medium to light color with an exceptionally fine flavor.

—ABJ—

## Eriogonums Source of Nectar

By C. W. Wood,  
Michigan.

The amber-colored honey from California which one sometimes sees on the markets and is told that it is buckwheat is not the buckwheat honey as we know it in the East. It is entitled to the name, though, as much as our own, for they both come from members of the buckwheat family *fagopyrum* (grain buckwheat) in the East and *erigonum* (native, woolly-leaved plants) in the West. The last named group of plants is made up of close to one hundred and fifty distinct species, probably all of them of value as producers of nectar.

There are species, however, in northern California, Utah, Idaho, other sections of the Rocky mountain region and plains, and one in West Virginia, which are not only able to go through our winters but thrive luxuriantly in the lighter soils of the East. All of the hardy kinds that I have tried are near-desert plants and are best suited to dry, sandy soils. Their woolly leaves (the name *erio-*

The palmetto grows in both flat lands and low hammock sections. The bloom is a spikelike cluster of white blossoms with a very sweet odor that can be detected for miles. It is a heavy honey producer.

Alfred C. Roberts,  
Florida.

*gonum* is from the Greek, meaning woolly joints) are an indication that they want good drainage and I find that a situation which holds an excess of moisture during the winter means sure death to the plants. Other than that, they are of the easiest possible culture, thriving on next to nothing and requiring little care.

A selection could be made among the hardy kinds which would produce a succession of flowers from spring until autumn. Unfortunately, the naming of *erigonums* is in an awful state of confusion, so it is best to buy them according to description rather than by name. And it is not easy to get hold of either plants or seeds through the regular channels, though I have had some success in both from collectors in the West.

The mention of the ornamental value of these plants brings to mind the fact that they have something to offer the gardener beyond their use as bee pasturage.

Here are three sources of supply for seeds of *erigonums*: D. H. Snowberger, Payette, Idaho; Lester Rowntree & Company, Carmel, California; J. H. Heckner, Brownsville, Oregon.

## Wax Moths and Moth Balls

I am a small beekeeper, a beginner, and have found it difficult to keep wax moths out of my combs. In October last year I noticed quite a number of moths in the storage room of my honey house and knew I had to do something to save the combs. I thought of moth balls. After looking the combs over carefully, killing all worms that could be found and putting the supers or hive bodies on a clean board, I put three or four moth balls per super between the combs.

The supers were stacked eight or nine high with a tight wooden cover on top. In my experience, the moth balls evaporate in about ten months. After two years I can recommend this as an effective way of keeping out moths and it requires only a small amount of labor and material, especially useful to the small beekeeper.

Joe Nilges,  
Missouri.

—ABJ—

## Brood Nest Combs

In one of his articles (December, 1936, Page 590) E. L. Sechrist says that he keeps his fine old brood combs in the brood nest and his light-colored combs for the extracting. I reverse that, for it seems to me that the light, easily broken combs are better in the brood nest where they will become tough and strong and that the old brood combs are better to use in the extractor, as they will not break. I think new combs should be in a brood nest at least one year to be suitable for extracting combs. As for the color, the honey from my dark combs is as white as water, and I am convinced that no pollen is ever extracted.

Dan S. Kittson,  
Manitoba.

—ABJ—

## Button Bush

There has been mention in "Postscript" regarding the button bush as a source of surplus. There is a small swamp about three hundred feet from my apiary which has considerable of it, some growing about fifteen feet high. I am sure, in the past, I have had surplus from this bush, and it grows in other swamps that are close. However, I have had a scale colony two years and it made no gain either year while button bush bloomed. In 1935, the first year, it was extremely wet, and in 1936 extremely dry and hot during the time of bloom. The ground where button bush grows is usually wet, but when it bloomed, the temperature hovered around 100 degrees.

Eleanor J. Neale,  
Michigan.



By G. H. Cale

**I**F "All Around the Bee Yard" appeared every month, it would be easy to become tired of it. Circumstances make it difficult to assure regularity and worthwhile material does not accumulate readily enough to keep the interest at a high point. So, "All Around the Bee Yard" just appears now and then.

In spite of that, it has many friends as we find by correspondence and by visits with those who are interested in what we have to say here. Every effort will be made to keep it as fresh and interesting as possible and have it appear as often as circumstances permit.

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Way back in May (at least, it seems way back now), C. L. Crump, in "Bees and Honey," page 133, has something to say about the profit and cost of honey production. That is an ever green subject. He comments on the proposal that beekeepers pay 3 cents a can (60-pound) on honey they produce, to be sent to American Honey Institute for continuing the highly desirable efforts of that organization. That is a plan which should meet with favor from all of us. But, as Mr. Crump says, "I realize that beemen are about the poorest lot when it comes to pulling together. Each one seems to think his way is best. They are not getting very far." Isn't that so! Unless we do pull together, we will never get very far. We are as independent as any other agricultural class. Mr. Crump continues by proposing a control of distribution of honey through pooling, cooperative selling, through groups and associations, grading, etc. That is all in the right direction, but how to bring it about generally?

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I saw something that has never come to my attention before. One of our apiaries is so situated that sweet clover fields are in easy reach, and fall bottom land of equal access; with both fall flowers and sweet clover in bloom, some colonies were distinctly producing sweet clover honey altogether, while, on the same day, other colonies were also as certainly producing fall honey. In other words, this apiary had divided itself, some colonies directing the attention of its workers to sweet clover and others to fall, with the result that honey of the

two sorts was coming in, practically pure, to the respective colonies.

— o —

This year more than ever we have faced the question of what makes a honeyflow. What **does** make the honeyflow? I presume all of us could set up before ourselves a board, like a telephone operator's switchboard, and put thereon various wires and knobs with the correct designation of the facts which produce a honeyflow, such as rain, humidity, temperature, plant vigor, colony morale, etc., but it would stump even the best of us to turn the proper buttons to produce the combinations which would make a heavy honeyflow.

This year with all the knobs turned to the right combination during the early sweet clover flow, there was absolutely nothing to be had from it. Later the fall flow and a clover flow came too close together for the proper separation of honey. Much honey will be mixed. In our own case, we are so situated that part of our yards get both fall and sweet clover, while others have only clover.

— o —

Most beekeepers who go through heavy honeyflows are spoiled by the repeated experience. They think that on every day during the entire flow, nectar should rain from brood and super combs. I venture to say that in a three weeks' flow, producing 150 pounds per colony average, the majority of the honey will be gathered in a few heavy yielding days, and the rest of it will just be fat to round out the crop.

— o —

Many places this year were again visited by those pernicious black flies which seem to live on the clover bloom from the time they appear until they disappear, taking all the nectar so the bees get none. They are parasites of the army worm, but spend the adult stage as nectar users, remaining anywhere from two weeks to a longer time.

When the flies leave, the bees come back to work if the bloom is not too far gone and if the season is not too late, etc. Nature has a habit of running things in cycles. When army worms get too numerous, the black flies must become even more numerous in order to overcome them. Then, on the disappearance of the army

worm, the black flies too disappear. So, in these recurring cycles, nature seems to dominate the situation.

— o —

Did you ever see a spring when the minor nectar sources yielded as well as they have this year? Crab apples, all the earlier fruit, red bud and orchard fruit, seemed to yield nectar so that there was even a little surplus stored. Dandelion was a scene of yellow color all over Nebraska, Iowa and Illinois prairie land, in towns and on the lawns. It was a great spring for building up bees. And when they get to their peak with clover in full bloom, there was no honey. What a business! What a business!

— o —

In hiving package bees, late years, we have been trying a stunt which seems quite satisfactory. Instead of feeding the packages as they are received with a thin syrup through the wire of the cages, we take an ordinary bee brush and a can of warm water and wet the bees down thoroughly just before opening the package and hiving the bees. The water, of course, makes it difficult for the bees to fly and they do not take to the air. The bees can be put in with much more safety at any time of the day and by cutting the entrance down to about two or three bee spaces for a few days, the package can be hived any time with perfect safety. It beats sugar syrup, especially when feed is given at once or when combs of honey are in the hive when the bees are released.

— o —

We were very much impressed with the value of locations in wooded spots containing a variety of minor nectar sources. We had one yard in a wooded glen with all the early fruit, many spring flowers, followed by motherwort, later by catnip and finally bluebells, Joepye weed (boneset), bergamot. All through the season the bees were getting a little nectar and keeping up their strength, while at a location not so favored on the grass land, there came a time, during the summer when clover was not yielding, when it was necessary to feed to prevent starvation. The resulting loss of strength in the colonies was very noticeable.

—ABJ—

## Illinois Valley at Hamilton

The Lower Illinois Valley beekeepers met at Hamilton (Ill.) at Wildcat Springs Sunday, July 18th. There were about 75 present. They had a basket lunch, several talks, and an inspection of Dadant & Sons' factory. A jolly good time for everybody. Some traveled 150 miles to get to this picnic. Beekeepers really like to get together for an outing.

AMERICAN BEE JOURNAL



# A Review of the Chemical Literature of Bee Products

By Howard Potter,

Massachusetts.

A REVIEW of the chemical literature pertaining to the products of the honeybee yields much interesting material and indicates many more interesting problems not yet solved. We will separate this chemistry into that of each of the six materials well known to beekeepers, namely: propolis, wax, poison, honey, pollen, and royal jelly. As propolis, honey, and pollen are gathered by the bees from outside sources, the chemical composition of them varies with the source. The other three materials are glandular secretions of the bees, and hence of relatively constant composition. These materials will be considered in the order named.

Although many investigators have worked with propolis, not much is known about its real constitution. The chemists report different amounts of the various fraction into which it may be divided because the proportion of dirt and of wax varied over a wide range in the samples studied. Averaging the results of several workers, we may say that propolis contains the following materials (after separation from the dirt):

Table I.

Water	6 %
Resin	60 %
Wax	24 %
Balsam	10 %
Volatile matter	0.5 %

A more detailed knowledge of the constitution of these fractions would possibly suggest uses for propolis, which at present is only a nuisance. If propolis could be sold for even a low price, scraping equipment would be a less disagreeable chore. For example, the balsam fraction has been reported to contain cinnamyl alcohol, cinnamic acid, and vanillin; three valuable chemicals.

The pigment chrysrine, or 1,3-dihydroxy flavone, was reported (Compte Rendu 184 1134) isolated from propolis gathered in the vicinity of Paris where the source was almost exclusively Black Poplar. The poplar buds are known to have chrysrine present, so this report ties up chemically the observed fact that bees gather this material from plants. These investigators believe that chrysrine is responsible for the color of beeswax

which is always contaminated with propolis in the process of rendering. Bleaching by sunlight or oxidizing agents destroys this pigment.

The relatively high price of wax has made it necessary to devise tests which will detect all sorts of adulterants, but there is still a large field open for theoretical research. It is well known that beeswax is a complex mixture of esters (an ester is a compound formed from an alcohol and an organic acid), and text-books refer to it as mostly myricyl palmitate, the ester of myricyl alcohol and palmitic acid. It also contains about 15 per cent free cerotic acid and 12 per cent hydrocarbons. Even the latest publications refer to the constituents as being compounds having an even number of carbon atoms in the molecules, probably because most natural products are even. On the other hand, in 1923 Gascard and Damoy published their results in *Compte Rendu* to support their claim that the acids, alcohols, and hydrocarbons in wax are four of each, having carbon chains of twenty-five, twenty-seven, twenty-nine, and thirty-one atoms, which does not include palmitic acid at all.

Whether they be odd or even, these long chains have an interesting connection with bio-chemical processes in general. Animal organisms have the ability to utilize long chain molecules by a breaking up process which reduces the chains to fragments that are directly useful. The reverse process, building a long chain from small pieces is equally important although perhaps more rare. The production of wax seems to be an especially clear-cut case of this type, for the long chains of as many as thirty atoms must be made from the six-carbon chains of the sugar molecules. The bee should be an excellent experimental animal in the study of this process.

Bee-sting poison is popularly believed to be formic acid. However, the chemical analysis and the physiological effects of the venom indicate that this belief is entirely wrong. There are two glands associated with the sting, the product of neither of which is deadly to a fly, but according to Snodgrass, the mixture of the two is immediately fatal. The venom may be kept in alcoholic solution, or dried on filter-paper for several months without losing its effect. The effects of the poison are those of a

proteotoxin. It has been hydrolyzed to the following compounds: (1) an nitrogen ring compound of the indole series; (2) choline; (3) glycerol; (4) phosphoric acid; (5) palmitic acid; (6) a high molecular weight unsaturated fatty acid; (7) butyric acid; (8) a water soluble acid that forms an insoluble anhydride.

The chemistry of certain pollens has been the subject of some careful investigations because they cause hay fever. Unfortunately these are not insect-carried pollens. Plenty of pollen is available for analysis and the study of it might throw some light on the most interesting material, royal jelly. No such analysis has yet been made, probably because the pollen stored by bees is a mixture of many varieties and for most purposes only the analysis of a single plant's pollen is significant. The analyses that have been made show a wide variation with the kind of plant used.

As in the case of wax, a large proportion of the research on the chemistry has been for the purpose of detection of adulteration or deviation from legal specifications. These investigations have brought out the wide variation in the nature of the honey as dependent on the floral source and have produced a large mass of data regarding the constituents of honey. It is a fact well known to readers of the bee journals that honey is mostly a mixture of the two sugars dextrose and levulose in concentrated water solution. The small part of the honey that is not these sugars is now of most interest to the chemist and of most importance to the beekeepers.

Many honey producers and dealers maintain that honey can be sold only if the price is on the level with sugar; otherwise the buyers will choose sugar. If this be true, there can be no bright hope for the future of beekeeping, as the production of cane or corn sugar is and will remain a cheap process compared with honey production. The future will undoubtedly bring cheaper sources of these sugars and the introduction of other sugars, any of which can supply sweetness at a low cost. Therefore we must base our hopes on that small, elusive fraction of the honey that is neither dextrose nor levulose. To this fraction belong the substances that give honey its inimitable flavors and aromas, and any "health-food" value it may have beyond that of corn

syrup. The study of this fraction is difficult because it is such a small part of the whole material (less than 5 per cent) and contains so many substances. Half a dozen organic acids, two or more pigments, a dozen minerals, several enzymes, aromatic bodies, higher alcohols and rare sugars have been found in it. It is the different proportions of these materials that make honeys from various flowers have characteristic flavors and colors.

The perfume of a flower is often associated with the honey produced from it. In one case, chemical evidence for such association has been found and at the same time a specific test for orange honey discovered, (Lothrop, Ind. — Eng. Chem. Anal. Ed. Oct. 15, 1932). Orange honey was the only honey that contained methyl anthranilate, an ester that is present in the oil of orange blossoms.

Royal jelly is an intensely interesting subject for research because of its remarkable ability to cause a worker larva to develop into a queen. This power must come from some "physiologically active" substance or substances. This type of material is relatively new to the chemist; it includes the vitamins and hormones. Many of them have never been isolated, but others are now known as definite compounds and can be synthesized in the laboratory. It may not be fair to assume that any material will be physiologically active when applied to the bee merely because it is so with mammals, although most of these substances are known to have wide application. For example, Aeppler (Gleanings, 1922) found that royal jelly does not contain sufficient vitamin A to maintain growth in young rats, while of course young queens are able to grow normally.

In England, Burdett and Hill in 1932 (Bee World 13 134) obtained some evidence that royal jelly contains vitamin E, the anti-sterility vitamin. They believe that it is responsible for the development of the queen, but have no proof that such is the case. In fact, before anyone can prove what makes a worker larva become a queen a method must be developed to use larvae in the feeding experiments. Rats and guinea pigs never become queens.

A bibliography from the Bee Culture Laboratory has been used for part of this review.

—ABJ—

## Iowa Auxiliary News Notes

(Continued from page 442)

State Fair. The Auxiliary has cooperated with the Fair board officials and the premium list has been revised and there is to be new equipment for our display this year. In this contest we are using the standard set by the American Honey Institute for the judging of honey cookery products.

We hope the women of the Auxiliaries and the beekeepers will rally to the support of the Institute and help it to continue its fine work in this field.

**Elsie H. Polhemus.**  
(Mrs. G. N. Polhemus.)

My training and work before marriage have in no way contributed to my present interest in bees. From the time I was graduated from a Pennsylvania Teachers' College, through my years of grade teaching and even during my first years of married life I used very little honey. My husband has for many years wanted to have an apiary, only six years ago this spring we started.

Since that time naturally we have always had honey on the table and I have learned to use honey more and more in my cooking. This last year I presume we have used at least two hundred pounds for our family of five.

In the last two years I have done a great deal of experimental honey cookery by the trial and rejection method. It really is amazing how little has really been rejected especially by three eternally hungry boys. I suppose having no previous training in the art of cookery is the reason my success at San Antonio meant so much to me.

—ABJ—

## George W. York

(Continued from page 433)

a glorious thing to be able to retain your faculties and your ambitions to the last days. George W. York did that very thing. He was just as ambitious, just as interested in the future of beekeeping on June 1, 1937 as he was over fifty years before when he first had his "baptism of fire" as assistant to Editor Newman.

Equally active was he in beekeeper association work, both personally and through his magazine. He was president of the Chicago-Northwestern Beekeepers Association for seventeen years, held the offices of both president and secretary of the national organization and was equally as active in his own state and those surrounding it.

In 1892, when he took the reins as editor and publisher of the American Bee Journal, in his introductory remarks, he said, "We shall try to treat all with kindness and impartiality. Our motto has long been 'Thue recht und furchtet niemand' ('Do right and fear no one'). We see no reason to change it now." Nor did he change it during his long and active life.

His widow, Mrs. Grace H. York survives him. It is too early to learn of her plans for "Bees and Honey," but for the present, at least, she expects to continue it without change.

## Soil Conservation

(Continued from page 429)

ly be paid back to the soil to the profit of every citizen.

All of us are interested in national policies that protect, conserve and increase the productivity of the soil.

Secretary of Agriculture Henry A. Wallace says that "we don't need to lose our grass and our soil. We can put tens of millions of acres now in corn, cotton and wheat back to grass. We can put millions of acres of sloping and blown land back to grass. Previous to the world war, we had to overplow and overgraze in order to pay interest on the debt we owed Europe. . . . We no longer have to overplow and overgraze to pay interest to Europe. Our chief debt is to our own farmers and our own soil. The problem is to use grass more skilfully to pay that debt in a way that will bring about the maximum of welfare to all the people of the United States in the long run. . . . We have made a beginning on this problem. We shall continue to work on it until the income of the average farmer and the soil on the average farm is far safer than it is today."

—ABJ—

## Increase Made By Wintering Small Colonies

Several years ago I practiced wintering every swarm which could be brought in through boys catching them and otherwise obtaining inexpensive colonies. In many instances I found these small swarms would winter nicely in a minimum of space and with surprisingly small supply of honey when well packed.

When brood rearing starts in the spring, however, strict attention must be required to give only such added space as they may need and a steady, but limited, amount of food. These small clusters in small boxes, inverted pails, nail kegs, etc., often show a smaller percentage of loss in number than some of my best hives. Ordinarily, I requeen these small colonies in August, using surplus queen cells from my best breeders.

Cutting bee trees and salvaging the bees and brood, therefore, often proves profitable; also removing unwanted bees from farm buildings. There was also the added satisfaction that such colonies are under control, converting a possible menace into a profit in due time.

Many valuable additions to the apiary may often be made by letting it be known among neighborhood boys that a nice new pocket knife or other simple prize is to be had for swarms brought to the apiary or their whereabouts reported to the beekeeper.

J. H. Sturdevant,  
Nebraska.



# Meetings and Events

## Keep These Dates Open!

Don't forget that the National Convention meets in Washington, D. C., October 25, 26, and 27. These three days are important to all beekeepers. A complete program will appear in next month's issue. Convention headquarters will be at the Hotel Washington.

American Honey Institute will conduct the fourth annual Honey Cookery Contest during the convention. It's not too early to send requests for your entry blanks to the Institute offices at Madison, Wisconsin. No entries will be accepted after October 22.

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## Alabama State Meeting, September 30 to October 2.

The Alabama Beekeepers Association will hold its annual meeting in Birmingham, at the Thomas Jefferson Hotel, September 30 through October 2. This is going to be a very important meeting as it will be held during the week of the Alabama State Fair which will begin September 27 and last through October 2. Several of the beekeepers are putting on a large bee and honey exhibit, and Mrs. Jensen, of the American Honey Institute, will be there all during the week holding honey demonstrations in connection with the bee and honey exhibits.

We will have M. G. Dadant, of the American Bee Journal, as our guest speaker and also will have Dr. Warren L. Whitecomb, of the Southern States Laboratories. There will be several other important speakers at the meeting. We want all beekeepers in the state to attend and we are looking for Mississippi, Louisiana, and Georgia to have representatives there. We would like to see beekeepers from all of the neighboring states at Birmingham.

The Armour Packing Company has agreed to furnish several hundred pounds of hams to be baked with honey, and we would like to have all beekeepers taste this dish while they are in Birmingham.

## Alabama Beekeepers' Association Meeting.

Thomas Jefferson Hotel, Birmingham, Alabama, September 30, 1937.

Thursday, 10 A. M.

Welcome ————— Bee Hall  
Response ————— Thomas Atchison  
President's Address — W. A. Ruffin  
Appointment of Committees—W. A. Ruffin.

Report of Secretary — J. M. Robinson  
The Use of Honey in Foods—Mrs. M. Jensen.

Alabama State Department of Agriculture and Beekeeping—Commissioner R. J. Goode.

Building Up Colonies for Honey Production—H. C. Short.

Producing and Marketing Honey—J. F. McVay.

Thursday, 1:30 P. M.

Beekeeping as a Hobby—Thomas W. Martin.

Honey Bees and Honey Plants—M. G. Dadant.

Production and Sale of Honey for Local Markets—Hubert Norwood.

Round Table—Bee Problems in 1937  
—Leaders: M. S. Fortune, Paul Cutts and W. E. Harrell.

Thomas Atchison.  
W. A. Ruffin.

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## Vancouver Island Annual Field Day.

The Vancouver Island Beekeepers' Association held their annual field day at Cowichan Lake recently, where their summer apiary camps are situated. Hidden amid the pink and purple of the fireweed are three camps containing from 60 to 70 hives each.

The association visited the Curtis Apiary, where Mr. McLuhan is acting as camp attendant and beemaster.

After an informal and enjoyable picnic, at which Mr. and Mrs. A. H. Curtis acted as host and hostess, the members of the party having colonies donned veils and gloves and proceeded to the hives.

Mr. Curtis, secretary of the association, opened up several hives whose frames were filled to capacity with crystal clear fireweed honey. Members were able to inspect their own hives and see the honey already extracted at the camp.

So great is the profusion of bloom that honey production is expected to reach a high point this season. Over 150 pounds of honey is calculated per hive if the conditions remain favorable.

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## California Bee Inspection.

The report of H. M. Krebs, Supervising Entomologist and Chief Bee Inspector for California for the first half of the 1937 year is at hand. 84, 515 colonies have been inspected out of a total registration of 110,294 colonies. The average amount of dis-

ease for the total inspected is just slightly under 1 per cent.

Strangely, in two counties, Napa and Yolo, the percentage ran very high in comparison with the balance of the state, being 11.3 in the former and 17.9 in the latter case. Apparently local centers of infection developed there which had not previously been anticipated and a more thorough clean-up was necessary.

When a producing state like California can remain on a basis of less than 1 per cent infection, it bodes well both for the beekeepers and for the inspection service. Under our present system, naturally continued and persistent inspection is necessary to maintain the inspection standard. It is also true, however, that as the disease abates and particularly as neighboring states cooperate, the possibility of reinfection should become less.

California and Mr. Krebs, as well as the beekeepers, are to be congratulated upon this showing.

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## Licking County (Ohio) Picnic.

C. P. Ruff, Newark, was selected president of the Licking County Beekeepers' association at the annual picnic and election meeting in Mound-builders State Park August 12. Seventy-five were present.

L. E. Albright, Newark, was chosen vice president and Howard Bolen, Newark, secretary-treasurer.

The picnickers had lunch at noon. Ruff, president, last year, took charge of a brief business session and awarded prizes.

C. A. Reese, state apiarian, was the principal speaker. Jerry Loewendick, county bee inspector, and Chester Alspach, county agricultural agent, spoke briefly.

Free ice cream and lemonade were furnished by the association.

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## Piatt and Macon County (Illinois) Picnic July 18.

The Piatt and Macon County (Ill.) Beekeepers' Association held their third annual picnic Sunday, July 18, in the Monticello city park. There were 150 in attendance. A large basket dinner and a fine program made the day enjoyable. There was a wealth of entertainment, music by the Kickapoo Valley boys of DeLand, the Bennett Southpaws and the Manning sisters; the Gisinger sisters of Cisco, C. L. Duax of Chicago, and speaking by various visitors; prizes by the merchants.

Piatt, Macon, Sangamon, Cook, Vermilion, Logan, Montgomery and Champaign counties were represented at this meeting.

E. W. Switzer, Secretary,  
Piatt Association.



# ILLINOIS MEETINGS



Secretary Peterson, President Duckwall, Treasurer Osborn of the Illinois association in a huddle at Kewanee.

The series of Illinois field meetings beginning July 31 and ending August 5 shows the spirit which has been put into many field meets throughout the United States by the affiliation and participation of the women. At these six meetings over 500 people attended in total, making an average of over 80 to each field meeting. Considering these were supposed to be only county or sectional meetings, the attendance is particularly pleasing. This also in spite of the fact that northern Illinois is reporting a very

light honey crop and weather dryer than the balance of the state.

Beginning at Palos Park with the Cook-DuPage meeting held at Leroy Stockdale's finely kept apiary, the group assembled the next day at the Aurora Park with President Smith of the Kane-DeKalb County Association presiding.

The third meeting was held at the apiary of Chas. Schwind at Belvidere with evening meeting at Rainbow Gardens.

B. E. Beach's model apiary in



In the foreground, Canfield, Duax, Bender, and Peterson vie for honors in the smoker contest. (Photos by Robert Dadant)

Rockford was the scene of the fourth meeting and the fine large apiary and surroundings of Mr. Lee Horning at Morrison, Illinois comprised the fifth.

The last meeting was presumably a state meeting held at the apiary of L. Peterson & Son of Kewanee.

It was surprising how many of the beekeepers and their wives participated in several of the meetings, following the tour around.

Not a small amount of the enthusiasm can be traced directly to the activity of the women.

There was a good battery of speakers at all meetings as follows:

V. G. Milum, The University of Illinois; C. L. Duax and Elmer Kommer, together with other deputies for the inspection staff. Miss Cranston represented the American Honey Institute and Mesdames Duax, Bodenschatz and Gill the Illinois Honey Foundation. The State Beekeepers' Association was represented by its officers—Osborn, Peterson and Duckwall. Other speakers were A. G. Gill and M. G. Dadant.

At the Kewanee meeting, various contests were held. The ladies in the cake contest ranked as follows:

Cake Baking: (1) Mrs. Landers, (2) Mrs. Bodenschatz, (3) Mrs. Bodenschatz.

Cookies: (1) Mrs. A. G. Gill, (2) Mrs. Duerrstein.

The largest number of entries came from Cook County with Will and Jo-Daviess following close behind.

In the frame nailing contest L. Robins was first, L. Edwards second, and H. Canfield third.

In the smoker contest, no one could equal the volume of Harry Canfield's smoker with Bender and Carlson following right along behind.

If the enthusiasm shown at these meetings is any criterion of the future of beekeeping one would be inclined to look with optimism upon the coming years. Large numbers of beekeepers were among the young set which bodes well for the future.

Considerable contributions were made during the course of the meetings for the American Honey Institute as well as subscription for a quantity of folders to be distributed by the Illinois Honey Foundation at the Illinois State Fair.

Beekeepers generally complained that the amount of honey available for fair exhibits would be light this year. Such honey as has been harvested undoubtedly will not be as white as in 1936 owing to the fact that the flow was slower, longer drawn out and with the possibilities of other flowers being mixed with the usual fine quality of white sweet clover.

The writer found considerable interest in races and strains of bees and also considerable complaint of supersedure of queens which is the problem now being investigated by

the Field Laboratory at Baton Rouge, Louisiana.

We recommend to other states the scheduling of meetings in a series in this fashion which not only assures of a better crowd through a continuing delegation but also assures of a sufficient number of speakers.

We give below a particularly enticing bread which was served at some



Tudor, Morrill, Kommer, and Dadant with the empty bottle. Nothing stronger than orange punch.

of the banquets and the recipe for which was kindly given by Tom Beddoes of Rockford, Illinois.

#### Honey Boston Brown Bread.

- 1 cup entire wheat or graham flour
- 1 cup corn meal
- 1 cup rye meal or ground rolled oats
- 1 teaspoon salt
- 5 teaspoons baking powder
- $\frac{1}{4}$  cup molasses
- $\frac{1}{2}$  cup honey
- 1- $\frac{1}{3}$  cups milk
- Raisins to suit taste

Mix thoroughly dry ingredients. Add molasses and honey to milk and beat thoroughly. Put into greased moulds  $\frac{2}{3}$  full. Steam 3 $\frac{1}{2}$  hours, remove covers and bake until top is dry.

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#### Texas Beekeepers' Association Annual Meeting.

The Texas Beekeepers' Association held its sixtieth annual meeting at Uvalde July 16 and 17. The meeting was called to order by President Roy S. Weaver of Navasota. There were sixty beekeepers present. After the usual opening numbers those attending were introduced to the assembly. This was due to the fact that the beekeepers present represented the entire State of Texas and many of them

were attending an annual meeting for the first time and because of the enormous distance which they were separated. The audience represented a territory approximately four miles north and south and five hundred miles east and west. C. E. Heard, chief inspector; Joe Watson, secretary, Uvalde Chamber of Commerce; and E. G. LeSturgeon, editor, Beekeepers' Item presented the members and even these with their knowledge of beekeepers in Texas had to ask certain men to introduce themselves.

County Agent, Fred Hall, Uvalde County, assured the beekeepers that no matter where they were their County Agent would be able to give the latest information relative to their division of agriculture and that these men gladly gave this service.

F. L. Thomas, state entomologist, explained fully the state inspection laws and the regulations going with them. He explained the system of inspection, assuring the beekeepers that a letter to his office at College Station, Texas, would bring them information as to inspection and requests for information relative to inspection and for inspection would receive prompt attention.

H. B. Parks of the Apicultural Research Laboratory, San Antonio, gave a brief report on the cooperative project for the investigation of disease resistance in honeybees in so far as that project is being carried out in the state of Texas. He told of the work actually done in the establishment of queen yards, the rearing of queens and shipping of these on to



Illinois beekeepers at Lee Horning's apiary.



Hoyt Taylor tells Elmer Kommer how he got his horse pictures. (See page 444.)

the cooperators for testing. He stated that he had no information as to the findings of other cooperators and that the Apicultural Laboratory did not have queens of this strain to furnish anyone as the queens produced were the property of the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture.

After the noon recess the Ladies Auxiliary which held its organization meeting and elected its officers in the morning, was ushered into the room and occupied the front seats. The newly elected officers: Mrs. A. W. Clark, president, Bandera; Mrs. J. Claude Wilson, vice-president, North Pleasanton; Mrs. I. F. Aten, D'Hanis, secretary-treasurer; were introduced to the beekeepers. In this initial meeting twenty-eight members were represented. The charter membership will be left open until October. Miss Myrtle Murray, District Agent, of the Extension Service spoke on the value of the Ladies' Auxiliary and the Association and the service to be rendered to beekeeping in general. She assured the ladies of the aid of the Extension Service and requested all of the Home Demonstration Agents over the state be asked by the members of the auxiliary to aid them. T. W. Burleson spoke of the Honey Institute, telling of the value of the auxiliary to the association and to the Institute as a material aid. He told of the work of the Institute illustrating his talk by means of advertising matter stressing the use of honey which is being put out by manufacturers at no cost whatever to the beekeepers. These manufacturers have been interested in the use of honey by the Institute.

The Uvalde Chamber of Commerce broke into the meeting at this point with a surprise recess in which two delightful musical selections were given.

E. Mortensen, in charge of the Small Fruit and Truck Substation of the Texas Agricultural Experiment Station at Winterhaven gave a fine paper on the relationship between honeybees and the pollination of small fruits and truck crops. He showed definitely why the honeybee is so valuable in pollination. He stated that the honeybee is best adapted of all insects for pollination purposes and that the honeybees being somewhat domesticated have not been destroyed as have wild pollinators by agriculture. As large acreages of orchards and truck fields have come into existence and the wild bees have disappeared the honeybee is a necessity. He further stated that the findings of the experiment stations were that plum orchards which are well known in Texas should have at least two colonies of bees per acre in the time of bloom and that truck crops such as melons should have at least three or four colonies per acre.

At six o'clock the City of Uvalde through the Chamber of Commerce tendered the beekeepers a barbecue accompanied by all the trimmings including music by a band and orchestra. This delightful entertainment combined all of the features of the Beekeepers Buzz. It is needless to say that this was the high point of the meeting.

Saturday, July 17, the meeting was given over to the history of the beekeeping industry in the Southwest. W. D. Bunting eulogized the work of B. M. Edwards, who in 1883 laid the foundation for beekeeping in the Nueces Valley by making available movable framed hives. He and others obtained their stocks of bees by transferring from box hives and trees. Mr. Bunting exhibited a picture of Mr. and Mrs. Edwards in their apiary about 1885. He also exhibited the Minutes Book of the Uvalde Beekeepers' Association. The Association came into existence to obtain cans in which to pack honey. E. G. LeSturgeon, editor of the Beekeepers Item eulogized Mr. Whitecotton as the originator of the honey marketing system, D. C. Milam as the man who planned out the system of outyards and mass honey production used in southwest Texas and W. O. Victor as the man who started bee improvement through the raising of queen bees.

J. B. King who went into beekeeping under the influence of Edwards told of the ups and downs of beekeeping especially of the extremes. He told of years of enormous honey production and year when flood and drought reduced beekeeping to almost

nothing. These talks were extremely interesting to all present. To some they recalled these beekeepers who were so well known and so much beloved. To others they were inspirational history. To all they were interesting and beneficial. At the business meeting resolutions were passed asking for additions to the Inspection Service, an apiculturist for the Extension Service, and additional funds for the Apicultural Laboratory, also a petition was sent to the American Railway Express for a lot rate on small amounts of honey shipped for advertising purposes.

The officers for the coming year are J. Claude Wilson, president, No. Pleasanton; I. F. Aten, vice-president, D'Hanis; H. B. Parks, Route 1, Box 368, San Antonio, secretary-treasurer. One hundred fifty beekeepers registered. The total attendance during the meeting was more than two hundred. The Ladies' Auxiliary report a paid-up membership of twenty-eight.

The other resolutions passed were thanking the people of Uvalde for the entertainment; R. G. Jordan, editor of the Uvalde Leader-News, whose publicity attracted many to the meeting; Joe Watson, secretary of the Chamber of Commerce for the meeting places for the Association and Auxiliary souvenirs of Uvalde honey which were distributed; W. D. Bunting, Walter Reid, and Joe Watson for having planned the barbecue and the music Friday night.

The next annual meeting will be in July, 1938, at Lockhart.

H. B. Parks,  
Secretary-Treasurer.

## NEWS FROM THE AUXILIARIES

By Eva D. Stewart, Auxiliary Editor

### Wayne County (Michigan).

Wayne County Beekeepers' Association held its first picnic at Riverside Park, Plymouth, Michigan. We floated our banner, but I think some

of the boys were looking for swarms or found a shady nook and enjoyed a lunch by themselves. They just missed out on that good honey lemonade and ice cream, and an opportunity of





meeting Miss Eva Stewart from Newport, Indiana, the new editor for the Auxiliary page in the American Bee Journal.

Miss Stewart spoke on the importance of organizations in promoting the wider use of honey. A smoker contest was held and Wm. Stack won first prize, a Woodman bee veil. Second prize was won by Arthur Blakley, one hive tool. If you boys have never used lemonade in your smoker, ask Mr. E. Kocsis; he will be glad to give you all the details.

—Mrs. W. E. Becker, Secretary, Ladies Auxiliary of the Wayne County Beekeepers' Association, Michigan.

#### Shawano Lake, Wisconsin.

The meeting held at Shawano Lake, Wisconsin, July 23rd, was called to order by our state chairman, Mrs. A. Stevens, and further plans were made for the State Fair at Milwaukee. We are planning on handing out leaflets to the public, "It's a Honey." Ladies planning to work in the booth are Mrs. Frank Orthlip, Mrs. Meyer, Mrs. A. Schultz, Miss Berniece Schultz, Mrs. V. G. Howard, Mrs. Diehnelt, and Mrs. Voyght. The dates for the fair will be August 21-29. We will have an educational booth to show the public what can be done with honey, and are going to try to sell some booklets "100 Honey Helpings" and some honey dispensers.

A cafeteria picnic lunch was enjoyed at our meeting, each lady bringing sandwiches for their family and an extra dish of something else made with honey. A large crowd was present to make the day an enjoyable one.

Miss Cranston of the American Honey Institute spoke on what she wanted of the auxiliary in the way of help at the Fair in the Honey Institute booth. She asked for the help of one lady each day of the fair. She passed out recipes using honey and told of her experience in using honey in ice cream.

Members paying dues were Mrs. Leonard Otto, Forest Junction, Wisconsin; Mrs. Frank Orthlip, Chilton, Wisconsin and Mrs. A. J. Schultz, Ripon, Wisconsin. New members are Mrs. Joe Elsinger, Knowles, Wisconsin and Miss Berniece Schultz, Ripon, Wisconsin. Dues collected amounted to \$2.50. Mrs. A. J. Schultz, Secretary-Treasurer.

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#### Oklahoma News Notes

Weather: At the present writing a part of North Central Oklahoma is needing rain. During the spring we had some heavy rainfall that was generally a help to the honey plants in the state and considerably helped the northwest Oklahoma horsemint flow.

The state has had much more rainfall this year than last year.

Crop Prospects: Taking the state as a whole I see no reason why Oklahoma should not do much better in honey production this year than last year, if the beekeepers of the state will be fairly successful in honey production during the remainder of the season.

Miscellaneous: Migratory beekeeping is beginning to be practiced by the commercial honey producers in Oklahoma. It is proving to be a profitable way to produce honey in the state because there are several good honeyflows that come on in different parts of the state at suitable times for moving bees and for getting good results.

Through the influence of the Hon. Joe C. Scott, president of the Oklahoma State Board of Agriculture, a broader bee program was established on the first day of July this year.

Through the cooperation of the beekeepers in the state this newly formed Apiary Division of the Agricultural Department can be made to accomplish a lasting and great good for the beekeepers of Oklahoma.

Mr. W. E. Jackson, state entomologist, is the head of the newly formed Apiary Division. His office is in the Agricultural Department in the State Capitol Building, Oklahoma City, Oklahoma. Mr. Jackson will certainly be pleased to get any suggestions from the beekeepers of the state that will help build up the industry.

Up until the first of July, 1937, all the bee department of Oklahoma had was one bee inspector. Under the new program the state apiary division has an entomologist and two bee inspectors.

The new bee inspector is Baughn Stone, Millerton, Oklahoma. He serves southeastern Oklahoma.

L. J. Austin,  
State Bee Inspector.

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#### Livingston-Wyoming County (New York) Joint Meeting.

The summer meeting of the Livingston-Wyoming County Beekeepers Association will be held at the residence of the secretary, Fred G. Benedict, on North Street in the village of Perry Center, Friday, September 17.

Professor George Rae, of Cornell, and Professor Guy Bailey, of Geneseo, will be the principal speakers.

Anyone interested in beekeeping is cordially invited to attend. Bring a picnic lunch. Coffee will be furnished. Come and bring your family.

Fred G. Benedict, Secretary.

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### ARE THEY QUEENLESS? Or Is She Worn Out?

Examine them at once. Let us have your needs in Bright Italian Queens. They are cheap, 50c each. Health certificate. Satisfaction guaranteed.

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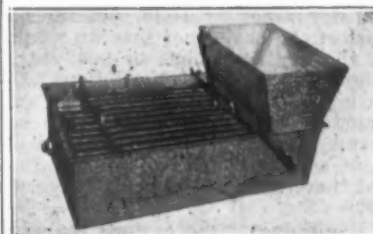
Extra gentle, prolific, long tongue, little swarming, dependable workers, 10% to 40% ahead of Italians. Wintered out of doors and bred in a climate like their native land thus insuring their good qualities.

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Prolific at all times, very gentle, best of winterers, build beautifully white combs, most excellent workers. My Carniolan queens headed colonies producing 435 lbs. extracted over whole yard. 31 years with them. My own and Jan Strgar imported strain.

Prices: Both races: 1 to 5, ea. 60c. Six or more, 50c ea. Tested \$1.00. Breeding queens \$5.00.

ALBERT G. HANN, Glen Gardner, N. J.



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The New BRAND MELTER  
will do that for you too!

Solves the problem of melting cappings. Uses waste steam from uncapping knife or plane. No injury to honey; no wax or specks. No honey left in wax.

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A May 1932 hatched queen, 1936 her fifth season, 360 lbs. extract. Never swarmed. Her grand-daughters, 1, \$1.00; two or more, 75c each. Satisfaction guaranteed.

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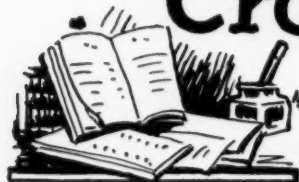
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Gives the latest news and views of the rabbit world—an illustrated monthly magazine of general and educational features. One year, \$1.00; three years, \$2.00; sample, 15c.

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Dept. S. Warrenton, Missouri

# Crop and Market Report

COMPILED BY M.G. DADANT



For our September Crop and Market page, we asked our reporters, as usual for this time of the year, to give us more complete suggestions upon the total crop and upon suggestions for prices for the coming year, as well as any information they have as to offers which have been made. These are compiled on the opposite page giving specifically the recommendations of the reporters plus some ideas as assembled in the office of the American Bee Journal. In this page we devote most of our space to a discussion of the honey crop for the past year and the possibilities for 1938.

## The Crop.

In twenty years of preparing the Crop and Market page, the writer does not recall an August when crop reports from all over the United States were as consistently disappointing as they have been this month.

Although it was known early in the spring that the amount of honey plants was not great, particularly in the dry areas of 1936, yet there was optimism on the part of the beekeeper that we would not have a repetition of the dry conditions of last year, and for that reason, might have heavier honeyflows. California early in the spring also had copious rains and was anticipating a bumper crop. Although, as the report will show, California is getting very much more honey than in 1936, it is as a general rule a disappointment to the beekeepers out there who had anticipated very much more than they got.

Beginning at the eastern seaboard, we find disappointing conditions in the New England states, New York, New Jersey, Delaware, Maryland, and, in fact, all down the Atlantic coast until we reach Georgia. Southern Georgia particularly has been much favored this year and is getting far more honey than a year ago. South central Florida is likewise in a satisfactory condition, although the state as a whole will probably not have as much honey as a year ago.

Most of the southern states do not produce exportable honey and the amount of the crop in Alabama, Mississippi, Kentucky, Tennessee, Arkansas and Louisiana will have no effect upon the general market. It is surprising how Kentucky and Tennessee have come forward with a much better crop this year. Arkansas and Louisiana follow, and Texas has also a normal crop although not as much as had been anticipated earlier. New Mexico and Arizona have been a disappointment.

It is in the central and western areas, however, that the greatest disappointment has occurred. In some states like Ohio, heavy rains cut in on the early half of the crop and the latter half has been very disappointing. Northern Michigan will do fairly well, but the rest of the state and Wisconsin, and extending over into southern Minnesota is far below last year. We ask our readers to refer to the September issue, 1936, to get an idea of what the crop was like last year.

Perhaps the only sections which are coming somewhere near normal conditions are northern Minnesota, some scattered locations in North Dakota, and some parts of the Black Hills section. There are, of course, isolated sections like northern Iowa, northeastern Nebraska, the San Luis Valley in Colorado, and some of the western sections of Montana which are showing up satisfactorily and, perhaps, above last year. However, in most of the areas, conditions have been extremely disappointing. There has seemed to have been plenty of honey plants,

but the atmospheric and general weather conditions apparently were not satisfactory for a honey yield, and as a result, the honey has not been stored.

Beekeepers in Idaho, particularly along the western half of the Snake River Valley, and beekeepers in southern Utah, as well as in Nevada, have been extremely disappointed. This also applies to the plains states, Kansas, Nebraska and South Dakota, where the crop has been extremely short and in many cases bees will have to be fed. Perhaps nearly normal conditions have been reached in the states of Washington and Oregon.

In the Canadian provinces, British Columbia shows up well, but Alberta and Saskatchewan have been hard hit by the drought, and although rains came later, it will not be possible to make up for the early shortage in crops, and the total crop will be much less than last year. Even in Manitoba where the rains came earlier, it is not likely that anything like last year's crop can be secured, and Ontario and Quebec are nearly in the same circumstances.

## Prospects.

Naturally, the crop is over in many sections like the Southeast and most of the entire South as well as the sweet clover region in the plains states, and in the intermountain areas, although the late bloom of alfalfa has helped in many instances to boost the crop along and is still yielding and will probably add to the total. In the fall flow areas, however, extending pretty generally through the southern part of the middle West, the rains have been copious and the chances for a fall flow are extremely good, weather permitting. However, there is no likelihood that any amount of fall flow can make up for the shortage in white honey.

Another thing we would like to impress on our readers is that in practically all places, the honeyflows have been slow flows this year, and that means a darker honey with more chance of intermixture with the minor honey plants. As one of our reporters in Utah stated, it is a foregone conclusion that there will be very little extra water white and water white honey this year, most of it ranging as white and into the extra light amber.

As to the prospects for 1938, this is, of course, looking far ahead, but beekeepers are prone as to their optimism by looking into the future. Rains have been far more plentiful than a year ago and even in the drier areas, the seedling clovers both of the sweet clover and white clover have carried through to this date without very much damage.

## Honey Prices.

In California and in some of Texas and the intermountain territory, the prices as offered by the early buyers have not been quite as remunerative as a year ago. In all other sections of the country, we believe the attempt has been, however, to quote just a little better prices than in 1936.

Plenty of producers and packers in the central areas are not going to have enough honey this year to supply their own needs and are going to be looking around fairly early in the season for additional stock. We learn of one producer this year who needs 100,000 pounds of honey to help fill his orders whereas last year he practically supplied himself.

All in all, we rather look for a stiffening market rather than a weakening one as the season advances. Naturally, other influences are at work. There is a good fruit crop and undoubtedly will be a large sorghum crop this year which may have some effect upon the honey market.

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Extracted Honey bought and sold  
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## SUGGESTED PRICES — F.O.B. SHIPPING POINT

	Crop Compared to 1936	Prospects	Honey Selling	Buyers?	Offers on White Extracted	C/L White Extracted	C/L Amber Extracted	C/L No. 1 Comb	10-lb. Retail Extracted	5-lb. Retail Extracted	10-lb. Bulk Comb	5-lb. Bulk Comb	1-lb. Jar Retail	Comb Section	Comb - Case to Grocer	Discount to Grocer	Discount to Jobber
NEW ENGLAND	70%	60%	Fair						\$1.60	\$ .85			\$ .25	\$ .30	\$5.00	25%	35%
NEW YORK	50%	40%	Fair	Yes	7	.07½	.06½	\$3.50	1.30	.70	1.40	.75	.25	.25	4.50	25%	35%
NEW JERSEY, DELAWARE, MARYLAND	75%		Fair						1.50	.85			.25	.25	4.50	20%	30%
WEST VIRGINIA, VIRGINIA	60%		Good	Yes	7½	.07½	.06½	3.00	1.30	.70	1.40	.75	.25	.25	3.50	20%	30%
NORTH CAROLINA, SOUTH CAROLINA	70%		Good														
GEORGIA	130%	100%	Good	Yes	7	.07½	.06½		.90	.50	1.10	.60	.25	.25		20%	25%
FLORIDA	80%	100%	Fair	Yes	7	.07½	.06		1.15	.60	1.25	.70				25%	35%
ALABAMA, MISSISSIPPI	80%	100%	Fair		6½	.07	.06		1.25	.65	1.40	.75	.20	.25		20%	25%
KENTUCKY, TENNESSEE	250%	80%	Fair		7	.07½	.06	3.00	1.40	.75	1.80	1.00	.20	.20		20%	25%
ARKANSAS, LOUISIANA	150%	100%	Good														
TEXAS	100%	100%	Fair		5½	.06	.05		1.25	.65	1.35	.70	.25	.25			25%
NEW MEXICO, ARIZONA	50%	50%	Fair		5	.05½	.05		1.00	.60							
PENNSYLVANIA, OHIO	40%	100%	Fair		6	.07	.06		1.25	.70			.25	.25			25%
MICHIGAN	50%	100%	Good	Yes	6½	.07	.06½	3.00	1.25	.65			.25	.25	4.00	25%	40%
WISCONSIN	40%	50%	Fair						1.15	.60			.25	.25		20%	30%
MINNESOTA	70%	75%	Good	Yes	5½-6	.06-.06½	.05½	3.50	1.10	.60			.20	.20	3.50	30%	40%
INDIANA	30%	70%	Good						1.10	.65			.25	.25	3.50		
ILLINOIS, IOWA, MISSOURI	60%	100%	Good		6	.07	.06	3.50	1.20	.65	1.50	.80	.25	.20	4.00	20%	30%
NORTH DAKOTA, SOUTH DAKOTA	50%	60%	Good	Yes	5½-6	.06½-.07	.06	3.75	1.20	.65	1.35	.70	.25	.25	4.00	25%	35%
NEBRASKA	60%	100%	Good		5½-6	.07	.05½	3.50	1.25	.65	1.35	.70	.20	.20	3.75	20%	30%
KANSAS, OKLAHOMA	30%	40%	Fair						1.25	.65			.25	.25		20%	30%
WYOMING, COLORADO	60%	70%	Fair		5½	.06-.06½	.05		1.00	.60			.20	.20		20%	30%
MONTANA	90%	80%	Fair		5½	.06½	.05½		1.00	.55			.18			25%	35%
IDAHO	40%	50%	Fair		5½	.06	.05½	3.00	1.00	.55					3.50		
UTAH, NEVADA	60%	50%	Good		5-5½	.05½-.06			1.00	.55						20%	30%
WASHINGTON, OREGON	50%	75%	Good		6	.06½-.07	.05½-.06	3.50	1.00	.55			.20	.25	4.00		
CALIFORNIA	150%	100%	Fair		5	.06	.05		1.00	.55			.20	.25		20%	30%
BRITISH COLUMBIA	120%	100%	Good		9½	.10½			1.50	.85							
ONTARIO and QUEBEC	80%	80%	Fair			.08	.07		1.25	.65							
SASKATCHEWAN and ALBERTA	40%	100%	Fair		9	.09											
MANITOBA	70%	100%	Good			.10			1.10	.60							



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Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

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**THREE-BANDED ITALIAN BEES** and Queens of fine quality. A trial order will convince you. Satisfaction guaranteed. Marketing Agreement prices. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, N. C.

**LIGHT 3-BANDED ITALIAN QUEENS.** We are one of the largest growers of queens in the United States, producing 100 queens or more daily. We ship only young, laying queens and guarantee them to be purely mated and satisfactory to you. You are the judge. Price, 50c each.

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**EXTRA YELLOW** Italian queens that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested 50c each; tested \$1.00 each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, N. C., Route 2.

**GOLDEN QUEENS** producing bees solid yellow to tip, untested 50c; tested \$1.00. Health and satisfaction guaranteed.

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**GOLDEN ITALIAN QUEENS.** Untested 50c. Select untested 75c. Tested \$1.00. Select tested \$1.50. Satisfaction guaranteed.

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**I WANT YOUR QUEEN TRADE** the balance of the season. Queens that fill your brood chambers with brood which in turn becomes bees that fill your supers with honey.

O. P. Hendrix, West Point, Miss.

**REAL PETS**—Gentlest bees under the sun. Guaranteed that you can manipulate them without smoke or veil under any weather conditions. Only yellow bees with long tongues. Non-swarmers. Great honey gatherers. \$1.00 each. More than ten, 75c each. June to October.

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**GOLDEN ITALIAN QUEENS** that produce workers very gentle to handle, good honey gatherers. 30 years a breeder. I don't let a colony build over 12 cells at the time to get good queens. Satisfaction guaranteed. Untested 50c; tested \$1.00; select tested \$1.50.

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**QUALITY QUEENS**—3-banded leather colored Italian queens. Give me a trial order. 50c each. Carolina Apiaries, Dalice E. Crawford, Mgr., Haw River, North Carolina.

**LONG-TONGUED CAUCASIAN Bees** and Queens Gentle, prolific, hardy. Better honey gatherers. Winter better. Queens 50c each. 15% discount to dealers.

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**FOR SALE**—Northern white extracted and comb honey.

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**HONEY FOR SALE**—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

**FOR SALE**—Well ripened clover honey, car lot or local shipments. Will be pleased to submit sample. **THE COLORADO HONEY PRODUCERS' ASSN.**, 1324 Market St., Denver, Colorado.

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WILL SELL 100 FULL COLONIES of Italian bees with locations at Manzanola, Colorado. Miller's Caucasian Apiaries, Three Rivers, Texas.

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WANTED—FILTER PRESSES, all sizes and types. Also Bottling Equipment. CONSOLIDATED PRODUCTS CO., INC., 13-14 Park Row, New York, N. Y.

WANTED—Used 3 or 4-frame non-reversible extractor. Write Charles Kesler, Scarville, Iowa.

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FOR RENT—200 to 225 colonies of bees, for half the crop. House and garden lot, also honey house furnished. In the country. For particulars, address Mrs. Mabel Skow, Dunlap, Iowa.

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### MISCELLANEOUS

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BOOK BARGAIN—Very slightly damaged copies of Beekeeping in the South by Kenneth Hawkins, cloth bound, published to sell at \$1.25, price postpaid only 29 cents. American Bee Journal, Hamilton, Ill.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, The Way's End, Foxton, Royston, Herts, England.

EVERY BEEKEEPER should have our catalogue of ATTRACTIVE honey labels. Lowest prices. GET YOURS IMMEDIATELY. LIBERTY, Box 1704, Cleveland, Ohio.

THE DADANT SYSTEM IN ITALIAN—The "Dadant System of Beekeeping" is now published in Italian, "Il Sistema d'Apicoltura Dadant." Send orders to the American Bee Journal. Price \$1.00.

# Grown-Up Boys

By Ruth Hodgson,

Wisconsin.

I WONDER what men do who have no young daughter or son to pass the buck to when they want something new to play with. While Daddy's main hobby is bees he has had several others, too, that have proved quite amusing.

One Christmas he bought Betty a few guppies to put in a small globe that she had. (At the time I thought Daddy was more interested in them than Betty, but—.) Well, a week or so later he came home with a pair of small *Scalaria* to keep the guppies company. Then the globe was too small and an oblong gallon aquarium was bought for Betty to put her fish in. Before we knew what was happening there were at least half a dozen aquariums of varying sizes and filled with every conceivable kind of tropical fish, set all around our living room. Daddy had by this time changed the "Betty's fish" to "our fish" when speaking of them. Of course later this became "my fish."

You need more than just fish and aquariums to raise tropical fish, you know. You need heaters, thermostats, several varieties of food, and worst of all live food! He'd go to a stagnant pool, chop a hole in the ice, and then scoop out gobs of muck. This had to be put in a pail of water and allowed to stand so that the small bugs would come to the top for air and collect on pieces of cork put in for this purpose. When quite a few had collected on the corks he'd scoop them out and feed them to the fish. All of this was all right but—the only place this precious pail could stand was in the living room with the fish, because if you moved it after they were collected they would all go to the bottom.

One day Mummy missed some of her silver and found several dessert spoons and teaspoons beside his pail. He also had a sauce dish and a saucer.

Oh, yes, the young fish. While they were rather amusing to look at I grew rather tired of them. They had to be fed every few hours at first. Daddy was usually too busy to come in and take care of them so it was up to me to play nursemaid.

By summer he had aquariums in the den, living room, and a couple in his bedroom. Needless to say we were all thankful when he had a chance to sell out at a profit.

Last summer Daddy went to see a miller who lives near us and saw a couple of barn pigeons flying around. He thought they would be just lovely

for Betty. (Incidentally he had always liked pigeons ever since he was a boy. Between you and me he's just a boy now when it comes to hobbies.) Well, the miller said: "Come and get them if she'd like them, I don't want them." That night they raided the pigeon loft as it were, and that's how the pigeons started!

Daddy fixed up a place for them in the second story of our mill. A few days later a bee supply customer came out and said: "Oh, is she interested in pigeons? I'll give her some pygmy pouters." So the pouters were added to the pigeon loft. Another friend donated a few pair of rollers. They were pretty and Betty liked them, but it was Daddy who studied pigeon books and subscribed to pigeon magazines. That wasn't the end of it by a long ways. One by one Daddy added pairs of homers, racing homers of excellent breeding. Now he has a good stock of racing homers, having gotten rid of all the others except a few that Betty keeps in another pen. Daddy is the pigeon fan, but in the beginning he passed the buck to Betty. Probably he felt silly at first about starting such a kiddish hobby but once in—We all get a kick out of his enthusiasm.

—ABJ—

## Field Meeting and Picnic Illinois District No. 1

The beekeepers of District No. 1—Jo-Daviess, Stephenson, Carroll, and Whiteside counties—held a field meet and picnic on June 6, at the home of Walter Capp, near Sterling. After a delicious picnic dinner a short time was spent in the orchards and gardens. Everyone appreciated the kind and generous hospitality shown by Mr. and Mrs. Capp.

The meeting was called at 2 P. M. by Chairman C. W. Duerrstein. C. L. Duax, of Chicago, gave a complete description of a series of meetings to be held in northern Illinois this summer. Mr. Barr, S. S. Claussen, and C. L. Duax held a discussion on the races of bees. E. F. Peterson, of Kewanee, gave a talk on state associations and benefits derived therefrom. Mr. Duax whistled a few solos which were enjoyed by all. Mr. Capp talked on fruit spraying, the time for it and its relation to bees. Russell Meyers demonstrated his device for wintering bees in the cellar. Mrs. C. L. Duax made a short talk on honey cookery content at the state and county fairs, and the meeting adjourned at 4 P. M.

R. M. Gober, Secretary.



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# The Postscript

GOSSIP ABOUT THE OFFICE  
IN THE MAKING OF THE MAGAZINE



Dr. Bodog F. Beck, author of "Bee Venom Therapy," is one doctor who appreciates the merits of honey. He contends that many ills of our present day civilization are due to errors of diet and recommends the use of simple natural foods. If the public would listen to men like him the call for honey would be such that the beekeepers could not meet the demand.

—ABJ—

From Dr. Beck I learn that Aristoxenus, in 320 B.C., taught that one who eats bread and honey for his breakfast will be free from all diseases. Also that such faith in the curative value of honey was well nigh universal among the ancients. For centuries honey was used by physicians as a remedy for coughs, pulmonary troubles and for gastric and bilious disorders.

Dr. Beck contends that to substitute the use of honey for refined sugar would add much to the health of the public and justify the faith of the ancient physicians.

—ABJ—

Gus Flother, who lives in New York City and follows beekeeping as a hobby, has been experimenting with the gathering of pollen. Last year he constructed a small vacuum suction machine with dry batteries to furnish the power. This season he has used a brush to collect the pollen from hollyhocks by brushing it into a cardboard box. He mixed the pollen with a liquid composed of equal parts of honey and water and gave it to the bees in his observation hive. Within a few days it was all stored in the cells which indicated that the bees appreciated the help of their owner.

—ABJ—

Several inquiries have come for seed of the Zofka red clover. As yet no supply of seed is within reach. Announcement will be made in this magazine when it becomes available.

—ABJ—

Mr. John Fenner, of Sciota, Penn., calls attention to *Centaurea dealbata* as a new honey plant. Perhaps it may be new in the sense that attention has not generally been called to its attraction to the bees, but it is commonly grown in ornamental gardens. It is a perennial which comes from Persia. It is closely related to the cornflower or bachelor's button of the garden. All the Centaur flowers are good honey plants and if they were grown by the acre would probably be widely known to the beemen.

—ABJ—

After reading about Dr. Beck's work with rheumatic sufferers, a patient who had suffered with a lame knee for weeks came to my apiary. Sitting beside a hive he submitted to four stings on the sore joint. The next day he returned for four more. In about a month the lameness and pain had disappeared. Now that the trouble has gone he is uncertain as to whether he should credit the relief to the bees or to a patent medicine which he was taking at the same time. Indications are that the medicine will get the benefit of the doubt.

—ABJ—

With the question of drifting of drones under discussion it was thought that the way to settle the matter was to mark some drones and see where they went. Accordingly 150 drones, all in one hive, were marked with red enamel similar to that used in marking queens. Not one of them has since been seen anywhere in the apiary. Where did they go?

—ABJ—

This has been one of the few dry spots this season and crops were suffering when the first good rain fell on August first. It came just in time for the corn which was at a critical stage. Since the dry area was so much smaller this season there is reason to hope that the dry cycle is ending and that we may expect more normal rainfall.

—ABJ—

E. Oertel, of the Bee Culture Field Station at Baton Rouge, writes concerning the Persian clover mentioned on this page in July, calling attention to the fact that it

is adapted only to low moist soils and will not endure cold. It is a winter annual and its range must therefore be limited to the extreme south.

—ABJ—

From Oertel's letter I quote: "Some Persian clover grows on the University farm at Baton Rouge. The plants that I have seen were rather short and lacked the vigorous growth of nearby white clover plants. The flower heads are quite small, lavender pink in color, and when the seeds ripen the original heads become swollen and woolly. Persian clover does not grow over as long a period in the spring and early summer as white clover does, nor does it furnish as many blossoms."

—ABJ—

The Kent wild white clover mentioned editorially in this magazine is a perennial which appears to be the dominant plant in some of the old pastures in Kent county, England. We have secured seed for planting in connection with the cooperative experiment and look forward with interest to observing its behavior. In view of the general loss of the Dutch white pasture clover on which mid-west beekeepers so long depended we are hoping that it will prove well adapted to our conditions.

—ABJ—

The reference to a dead worker bee in a queen cell with a live queen, on this page in the August issue, brings a letter from H. E. Weisner, of Tucson, Arizona. Weisner reports a similar observation. He mentions that several times also he has found dead workers in queen cells in which the queen larvae failed to develop. He says: "Subsequent experience has convinced me that bees occasionally seal a worker in a queen cell without having been molested by outside interference."

—ABJ—

An interesting letter comes from San Bernardino, California, but with only the initials TBS I am unable to reply by mail. Its author thinks that the name Japanese Pagoda Tree is incorrectly applied to *Sophora Japonica* in the July Postscript. He refers that name to *Kerria Japonica*, the Japanese Rose which grows only about six to eight feet tall and has many bright yellow flowers in early spring. Thus does the use of the same name for different plants lead to endless confusion. An effort has been made to improve this condition by the adoption of standardized plant names. A large book has been compiled by a joint horticultural committee which assumes to decide which plant is entitled to a particular name. The books within my present reach give the name Japanese Pagoda tree to *Sophra Japonica*.

—ABJ—

Mr. P. Provansal, of Mexico, noting my perplexity regarding the eating of mangoes, sends me a fork designed especially to hold them. It has the center point much longer than the other two. Along with it he sends me a beautiful hand painted design prepared with great skill by Indian craftsmen. The Mexican Indians are very clever in the combination of colors and the result is a gift which is highly treasured. My sincere thanks go to Mr. Provansal.

—ABJ—

A letter from Frank Perriguy, of Gasconade, Missouri, brings back pleasant memories of the days, long gone, when I lived in Dent County and was familiar with the long list of honey plants which he names as common to that region. When persimmons were ripe in early fall was the time of greatest enjoyment. The balmy afternoons tempted one to leave his work for fishing in the Merrimac or Current Rivers. At times I imagine I can hear yet the cowbells in the unfenced woodlands which at that time were common pasture lands.

Perriguy writes that some of his bees have stored five supers of honey this season. The Ozark region is a most delightful place to be as I know from five years' residence there.

FRANK C. PELLETT.